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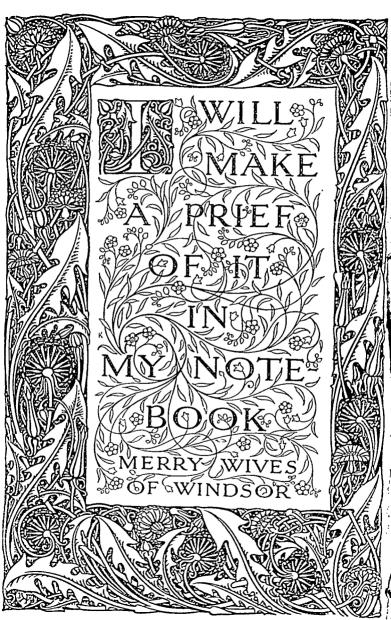
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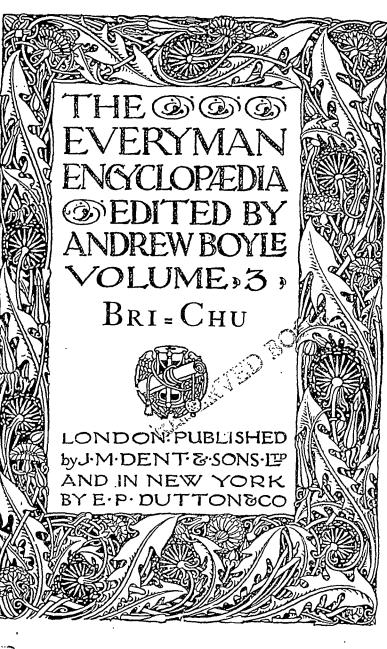
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LIST OF ABBREVIATIONS

ac.. acres. A.D., after Christ. agric., agricultural. ambas., ambassador. ann., annual. arron., arrondissement. A .- S., Anglo-Saxon. A.V., Authorised Version. b., born. B.c., before Christ. Biog. Dict., Biographical Dictionary. bor., borough. bp., birthplace. C., Centigrade. c. (circa), about. cap., capital. cf., compare. co.; county. com., commune. cub. ft., cubic feet. d., died. Dan., Danish. dept., department. dist., district. div., division. E., east; eastern. eccles., ecclesiastical. ed., edition; edited. e.g., for example. Ency. Brit., Encyclopædia Britannica. Eng., English. estab., established. ct seq., and the following. F., Fahrenheit. fl., flourished. fort. tn., fortified town. Fr., French. It., feet. Ger., German. Gk., Greek. gov., government. Heb., Hebrew.

Hist., History.

i.e., that is. in., inches. inhab., inhabitante. Is., island, -s. It .. Italian. Jour., journal. Lat., Latin. lat., latitude. l. b., left bank. long., longitude. m., miles. manuf., manufacture. mrkt. tn., market-town. Mt., mts., mount, mountain, -s. N., north; northern. N.T., New Testament. O.T., Old Testament. par., parish. parl., parliamentary. pop., population. prin., principal. prov., province. pub., published. q.r., which see. R., riv., river. r. b., right bank. Rom., Roman. R.V., Revised Version. S., south; southern. sev., several. Sp., Spanish. sp. gr., specific gravity. sq. m., square miles. temp., temperature. ter., territory. tn., town. trans., translated. trib., tributary. U.S.A., United States of America. vil., village. vol., volume. W., west; western. yds., yards.

THE ENCYCLOPEDIA

Bridge, Sir Cyprian Arthur George Bleaching and dycing are the imported. 1839), admiral, is the son of the tant industries, and there are sev. Venerable Archdeacon B. He entered paper mills. Pop. 3265.

Bridge of Weir, a market tn. in W. the navy in 1853, and became rearadmiral in 1892. During the India
Mutiny, he was stationed in the Bay
of Bengal. On his retirement, in 1904,
was commander-in-chief of the China
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Bridge, Sir Frederick (b. 1844), musician, born at Oldbury, Worces-tershire, on Dec. 5. When about tershire, on Dec. 5. When about fourteen years of age, he was articled to John Hopkins, organist of Rochester Cathedral, where his father held a lay clerkship. He was organist of Trinity Church, Windsor, from 1865 to 1869, and of Manchester Cathedral from 1869 to 1875. As organist at Westminster Abbey since 1875, he has officiated on many important occasions, notably at Queen Victoria's Jubilee services, and at the corona-tion of King Edward VII. and of King George V. He was knighted at Queen Victoria's Diamond Jubilee in 1897. He has held various appointments, including that of King Edward pro-fessor at London University, and he has pub. sev. cantatas, oratorios, and works on the theory of music, in addition to publishing and editing a considerable amount of Church music.

Bridge-head, in fortification, is a building intended to cover the passage across a river by means of fortifications on one, or both banks. Should an army require to pass over a bridge, it is very necessary to protect it from an attack by the enemy, as its passage must necessarily be slow and difficult: the works of the B. must therefore be strong enough to ensure the bridge against harm by hostile firing. In earlier times, when only short-range weapons were in use, the B. formed a protection for the an attack by the enemy, as its passage B. formed a protection for the bridge only, but modern times and conditions have made it needful to

quarries, a tannery, etc. Pop. 6060. Bridgenorth, see BRIDGNORTH.

Bridgeport, a seaport and a city belonging to Connecticut, United States. It is situated on Long Is. Sound, and is about 60 m. N.E. from New York. It has a considerable coasting trade, and a safe harbour for small vessels. The manufs, are sowing machines, machinery, and heating apparatus, carriages, harness, etc. Pop. 84,275.

Bridges, Robert Seymour (b. 1844). English poet, was educated at Eton, Corpus Christi College, Oxford, and later was a medical student at St. Bartholomew's, London. For some time assistant-physician at the Children's Hospital, Great Ormond Street. he afterwards was on the staff at the Great Northern Hospital (until 1882). He wrote many dramas, as, for example, a tragedy, Nero, in 1836, and in 1890 The Return of Ulysses, but his best work will be found in his Shorter Poems, 1890. His verse is characterised by its pure, restrained style and by excessive refinement, and withal strength of expression. and withal strength of expression. Calderon was his model in his comedy entitled The Humours of the Court, 1893. A critic of no mean order, he was the author of Millon's Prosody, 1893, and of an Essay on John Keats, 1895. He argued that English metre depended not on the number of syllables, but on the number of stresses in a line stresses in a line.

bridge only, but modern times and stresses in a line.

Conditions have made it needful to Bridget, St., of Sweden (c. 1302-constructfarstrongerbridge-defences.

Bridge of Allen is a picturesque saint, was the daughter of Birger Scottish health resort situated on Allan Water in Stirlingshire, about the blood-royal of Sweden. She was married to Ulf Gudmarson at the age its mineral saline springs, which are yearly visited by numerous people.

to the shrine of St. Jago de Compostella in Spain. She founded the order of St. Bridget or of St. Salvador, which quickly spread its influence throughout Europe. She was canonised in 1391, her feast being Oct. 9. She is chiefly remembered on account of her visions, which were trans. into Latin by her confessors.

Bridget, St., of Ireland, see BRIGIT,

Bridgeton, a city and the cap. of Cumberland co., New Jersey, United States. It is a port built on Cohansey Creek, about 40 m. from Philadelphia. There is considerable trade in glass bottles, and there are large iron

foundries. Pop. 14,225.

Bridgetown, the cap. of Barbadoes, British W. Indies. It is situated on the S.W. coast, and stretches along the N. shores of Carlisle Bay. It is surrounded by sugar plantations, and is a well-built tn., with large waterworks, a market, college, council house, and a jail. Not far from the town there are the barracks, arsenal, and also the residence of the governor. There is a fortnightly mail steamer service from B. to Southampton. Pop. 34,000. 1 of Ply-

United w York,

New Haven, and Hartford R., 27 m. S. of Boston. It has manufs. of cotton, iron, paper, shoes, nails, etc.; also foundries and machine shops. Pop. 7500.

May 21. During his young days he exhibited particularly weak intellectual powers. He became engaged to the Duchess of Hamilton, but the match was broken off. This caused his retirement from society, and he estab. a house in the country, where he studied the possibilities of canal traffic. He designed the canal from Worsley to Manchester so that it might be utilised for the transport of coal from his Worsley estate. A remarkable aqueduct across the Irwell is a feature of the great achievement. With the aid of his engineer, James Brindley, he projected the canal con-necting Liverpool and Manchester. This was begun in 1762, and manifold and formidable obstacles had to be surmounted. The canals were sold to the B. Navigation Company in 1872, and in 1887 were sold to the Manchester Ship Canal Company. He died unmarried.

Bridgewater, Francis Henry Eger-ton, eighth Earl of (1758-1829), son of John Egerton, Bishop of Durham, was born on Nov. 11. He was educated

out with her husband on a pilgrimage at Eton and Oxford. He studied for the church, and was rector of Middle and Whitchurch, in Shropshire. succeeded his brother to the title in 1823, but remained unmarried, and at his death the title became extinct. The Egerton MSS. (on the literature of France and Italy) was bequeathed by him to the British Museum along with a sum of £12,000. He also left £8000 to be paid to the author of the best treatise On the Power, Wisdom, and Goodness of God, as manifested in the Creation. The president of the Royal Society (Davies Gilbert), in whose hands lay the decision of the merits of the works, divided the money among eight persons for eight money among eight persons for eight separate treatises. These are the celebrated B. Treatises. The list of the works is as follows: (1) The Adaptation of External Nature to the Moral and Intellectual Constitution of Man, by Thomas Chalmers, D.D., 1833; (2) Chemistry, Meteorology, and Digestion, by William Prout, M.D., 1834; (3) History, Habits, and Instincts of Animals, by William Kirby, 1835; (4) Geology and Mineralogy, by 1835; (4) Geology and Mineralogy, by Dean Buckland, 1837; (5) The Hand, as evincing Design, by Sir Charles Bell, 1837; (6) The Adaptation of External Nature to the Physical Condition of Man, by John Kidd, M.D., 1837; (7)

Astronomy and General Physics, by William Whewell, D.D., 1839; (8) Animal and Vegetable Physiology, by Peter Mark Roget, M.D., 1840.

Bridgewater, John (c.1532-c.96), Catholic divine, sometimes called by the Latinised form of his name, Aquepontanus. Graduated M.A. at Oxford, 1556, and appointed rector of Lincoln College at that university, 1563-74. After serving as canon-residentiary of Wells, the Earl of Lainage

St. Katharine, near Bedminster. Two years later he returned to Wells as prebendary. He published a number of historical and theological works in Latin.

Bridgewater Canal, one of the first Eng. canals to be constructed, was built by the order and at the expense of the Duke of Bridgewater, for the purpose at first of having coals conveyed from Worsley to Manchester. It was later on extended to the Mersey. See BRIDGEWATER, DUKE OF

Bridgman, Laura (1829-1889), an American blind deaf-mute, born at Hanover, New Hampshire. Up to the age of two the child was organically normal, but she caught a severe fever, which utterly destroyed her senses of hearing and seeing, and seriously impaired her nervous system. At the age of eight, through the influence of

Dr. Howe, she was admitted into the Perkins Institution for the blind. At first her intellect could only be reached through arbitrary signs, but gradually she mostered the art of reading in embossed type, and thenceforth made extraordinary progress. She subsequently learned advanced algebra, ronomy.

temperahymns.
She was one of the first blind deafmutes to enjoy higher education.
Charles Dickens has immortalised
her in his American Notes.

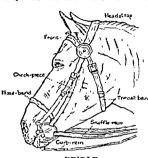
Bridgmorth, a tn. and municipal bor. of Shropshire, England, situated on the banks of the Severn, which divides it into the High and Low ths. It has a large market, an anct. tn. hall, a library, and a prison. It manufs, nails and worsted, and does much trade by the Severn. Pop. 6075.

Bridgwater, a scaport town in Somersetshire, England, about 30 m, from Bristol. The R. Parret flows through the middle of the tn., and is spanned by a fine iron bridge. The manuf. of bath-brick is an important one, the materials for which are obtained from the riv. bed. There are also a few potteries. The exports are earthenware, bath-brick, coment, and the imports are coal, timber, grain, etc. Pop. 15,560.

Bridle, that portion of the harness

of a horse by means of which its direction is governed and its speed regulated. It is attached to the head The ordinary single and mouth. riding bridle consists of a system of straps, one passing over the head, behind the ears, called the head-strap; another, the front strap, in front of the ears, and horizontally placed and joining the head-strap at each end; other portions include a cheek-piece, throat-band, nose-band, and the reins, all of which are caralingd by the all of which are explained by the names they bear. The driving B. has usually a pair of blinkers fixed to the cheek-pieces in order to restrict the vision of the horse, for its propensity for seeing objects approaching from the rear often leads to fright. Another variety of the B. is the double or Weymouth B., and is generally used in hunting, though its use in ordinary driving is increasing. It has two separate bits, and is to be recognised by its chain curb which gives additional powers of control. A modification of this double B. is the Pelham. It is largely used, and consists of a single bit with an additional pair of rings fixed to the sides. Improvements regarding the appearance of the horse and also its physical comfort have seldom happily been made to achieve both ends. The bearing rein, fastening to the saddle-pad and thence

to the bit, has the effect of arching the animal's neck and thereby considerably improving his smart appearance, but the physical discomfort entailed by the device is claimed by the opponents of the bearing rein to render its application wilful torture. Certainly the animal's neck is strained



BRIDLE

to a position quite unnatural, and quite devoid of any freedom of movement. Cramp from such a posture must cause deterioration in health. The modern bit, called a snaffle bit, consists of a smooth rounded iron, jointed in the centre, and terminating in bars as a preventive against the bit being pulled out of the mouth, and it is noteworthy that it corresponds in structure almost exactly with the Assyrian device.

Bridlington, a tn. in the E. Ridling of Yorks., England, situated about a mile from the coast, where is B. Quay, the port for the tn. It is 6 m. from Flamboro' Head, and is a quaint irregularly built town. The bay is a fashionable watering-place, noted for its mineral springs, firm sands, and chalk flint fossils. There is plentiful accommodation for small vessels in the harbour, and a good trade in corn is carried on Pon 19 690.

is carried on. Pop. 12,620.

Bridport, a port in Dorsetshire, England, situated between the two streams Bride and Asker. Near the tn. these rivs. join and form the Brit, which is a safe and roomy harbour for smaller vessels. The manufs. are thread and twine, sail-cloth and nets.

Pop. 5992.
Bridport, Sir Alexander Hood (1727-1814), admiral, became lieutenant of the Bridgevaler in 1747, and for ten years served in that capacity on many ships. Whilst on the Minerva frigate he was at Quiberon Bay when Hawke gained his famous victory, 1759. In 1778, on the Robust, he took part in the battle of Ushant. The court-martial of Admiral Keppel re-

self, especially in the action known as the Glorious First of June, as second in command to Howe, and was consequently raised to the Irish peerage. In 1796-7 he controlled the war from London, whilst from 1798-1800, after the suppression of the mutiny at Spithead, he directed the siege of Brest, until St. Vincent relieved him. His fifty-nine years' devoted service.

Brie, an agric. dist. of N. France. Its area is 2400 sq. m. It is divided into W. and E., which are respectively known as the B. française and the B. champenoise. The dist. is celebrated for its dairy produce, notably cheese.

Brie-Comte-Robert, a tn. of France in the dept. Seine-ct-Marne, about leather, hats, etc. the cap, of the prov. of Brie, one of remains of an anct. castle, now in the old dists. of France between use as a military store. Pop. 24,760. the rivs. Seine and Marne. Pop. about 2500.

and the action, and bears the name of the solicitor and of the counsel. On authority out the c

term corresponding to B. is memorial. (Church Brief or King's This instrument, which is Brief now obsolete, consisted of a kind of open letter, issued out of Chancery in the king's name and sealed with the privy seal, directed to the arch-bishops, bishops, clergymen, magistrates, churchwardens, and overseers of the poor throughout England. It recited that the crown thereby licensed the petitioners for the B. to collect money for the charitable purpose therein specified, and required the several persons to whom it was directed to assist in such collection. They appear to have been always subject to great abuse, and by a statute passed in Anne's reign a variety of provisions were made for their future regulation. The expensive machinery of collecting by B. in shire deep, Benjamin (1825-96), Engsive machinery of collecting by B. in shire deep, Benjamin (1825-96), Engsive machinery of collecting by B. in shire deep.

sulted from this engagement. Hood, abolished by a statute passed in the by his defence of Keppel, roused considerable animosity. As commander the earlier statute and enacted that of a flag-ship under Howe, he was present at the relief of Gibraltar in 1762. When war was declared with France in 1793, he distinguished himself especially in the action known as Bs. are still to be found named in one of the rubrics in the Communion Service of the Book of Common Praver.

Brief (or Breve), Papal, a term used to denote papal documents which are drawn up without the full ceremony which the bull necessitates. The B. is furnished with a red wax stamp showviscounty was a recognition of his ing St. Peter drawing in a net and surmounted by the name of the pope (' the ring of the fisherman'). The B. was instituted to lessen the work of the papal chancery, hence the name.

Brieg, a tn. in the Prussian prov. of Silesia, situated on the l. b. of the R. Oder. Its manufs. are linen, cotton, and woollen fabrics, machinery. cigars. sugar, thread, There are large 11 m. N.W. of Melun. It was once cattle markets. The tn. possesses the

Briel, a seaport in S. Holland situated on the is. of Voorne, in the Brief, in Eng. law, the written docu- R. Maas, about 14 m. from Rotterment on which as basis barristers dam. It has a good harbour, an advocate causes in courts of justice. arsenal, powder magazines, and bar-The B. is a concise statement of the racks. The high tower of St. Catheinformation procured by the solicitor rine's church is used as a lighthouse. The people are chiefly fishermen and

Dilote. Pop. 4275.

Brienne, a tn. of N.E. France, in the dept. of Aube, and 1 m. from the Aube riv. Its pop. is 1761 (1900). Brienne, Jean de, a Fr. knight whose early history is obscure. The King of France declared he was the. most worthy champion to defend the Holy Land. In 1209 he was crowned in Tyre and conducted a campaign against the Saracens. He captured Damietta after a siege of sixteen months, during the 5th crusade. He was elected Emperor of the East in 1229 and defeated the Greeks and Bulgarians. He continued on active military life till he was over eighty years of age, and died in 1237.

Brienz, a tn. of Switzerland, in the carbon of Bern. It is picturesquely situated on the N.E. of the lake of B., at the foot of the Brienzergrat mts. The lake is 9 m. long and 31 wide, and is formed from the R. Aar. Its waters are very deep, and surrounded by most beautiful scenery. Pop. 2725.

tracted attention. In 1863 he definitely took up journalism, publishing Chronicles of Waverlow, The Layrock of Langleyside (afterwards dramatised). In 1869 he started Ben Brierley's Journal, a weekly, continued till 1891. Under the pseudonym Ab-o'-th'-Yate, he wrote Tales and Sketches of Lancashire Life, Irkdale, Ab - o' - th' - Yate in Yankeeland. These were very popular. He visited America 1880 and 1884. A statue was erected to him after his death in

erected to him after his death in Queen's Park, Manchester. Brierley Hill, a town in Stafford-shire, England. It is 2 m. from Stour-bridge, and it forms a part of the Black Country. It is a very busy place; much coal and iron are worked in the dist., and there are immense blast furnaces and iron foundries. Fireclay is found also. There are

Fireclay is found also. There are potteries, brick works, and glass factories. Pop. 12,375.
Brierly, Sir Oswald Walters (1817-94), an Eng. marine painter, son of a doctor. He entered Sass's art-school in London, then studied naval architecture at Plymouth, and exhibited some ship drawings at the Royal Academy, 1839. He travelled with Benjamin Boyd in The Wanderer, and settled in Auckland for ten years. Brierly Point is called after him. B. voyaged on the Rattlesnake, 1848, and on the Meander, 1850, with Keppel, whose book about this cruise he illusduring the Crimean War. In 1855 B. pub. lithographs, 'The English and French fleets in the Baltic;' 1856 he took sketches of the naval review at Spithead for Queen Victoria, and was attached to the critical for the Dulis of attached to the suites of the Duke of Edinburgh and the Prince of Wales on their tours by sea, 1867-8; ap-pointed marine painter to the queen, 1874; knighted, 1885. B. exhibited mostly at the Royal Water-Colour Soc. mostlyatthe Royal Water-Colour Soc, His best pictures are at Melbourne and Sydney. In 1881 he was curator of the Painted Hall, Greenwich. Two famous works are 'The Retreat of the Spanish Armada,' 1871, and 'The Loss of the Revenge,' 1877.

Bries (Hungarian Brezonobanya), a tn. of Hungary in the prov. of Sohl, about 24 m. E.N.E. of Neusohl. Pop. about 3942.

about 3942.

Briesen, a tn. in the prov. of W. Prussia, Germany, situated 24 m. N.E. by N. from Thorn; pop. 6000. Brieue, Saint, a Fr. tn., cap. of the dept. Côtes-du-Nord, Brittany. It is

an old tn. and possesses a cathedral

as well as being the seat of a bishop. Its port is Léqué. Pop. about 14,000. Brieux, Eugène (b. 1858), a Fr. dramatist and journalist, born in Paris

In 1863 he de-influential positions on the staff of journalism, pub- La Patrie, Le Figaro, and Le Gaulois. His first play was Bernard Palissy, 1880, written in collaboration with Salandri, but he did not estab. himself as a playwright until his Ménage d'Artistes, 1890, had won considerable applause at the Théâtre Libre. He freely introduced philosophical discussions into his plays, which are, for the most part, satires on various social evils of the time. Thus in social evils of the time. Thus in Blanchette, 1892, he exposed the dangers of educating girls of the working classes; in Les Trois Filles de M. Dupont, 1897, he throws into bold relief the grave difficulties aris-ing among girls of the middle class from the antiquated system of dowry; whilst the life of a shop girl in Paris forms the subject of his Pclite Amie, 1902. But like Dickens, his field of satire is unlimited, and he empties his vials of ridicule and contempt on any abuse that at the time especially rouses his indignation. The vicious character of political life is accentuated in his L'Engrenage, 1894, whilst La Robe Rouge discloses the injustices of the law. Some of his other plays are: L'Evasion, 1896; Maternité, 1904; and Les Hannctons, 1906. Three of his plays, Maternity, Damaged Goods, and The Three Daughters of M. and The Three Daughters of M. Dupont, have been pub. in England (Fifield, London); the translation of the first-named play being by Mrs. Bernard Shaw, and the vol. containing a long preface by her brilliant husband on the Fr. dramatist's genius. As B. belongs to the Galsworthy, Barker, Ibsen, Strindberg, and Shaw school of playwrights, it is but natural that the latter should see in B. the most considerable French dramatist since the days of Molière.

Brieve, a term used in Scottish law. Its general character is that it directs an inquiry to be made regarding certain matters. The most important inquiry now conducted by Bs. is the inquest for services of heirs. This form is necessary for feudally investing an heir in his ancestor's landed property.

Brig, a two-masted, square-rigged ssel. It was at one time a flat open vessel. boat with sails, and from ten to fifteen oars on each

120 men. A phrodite brig, is

vessel, square rigged on the fore-mast only, the other sails being fore-andaft sails.

Brigade, a unit, according to Eng. military usage, consisting of a group of regiments acting under a major-Brieux, Eugène (b. 1858), a Fr. dra-matist and journalist, born in Paris The British infantry B. consists of of poor parentage. After being editor four (occasionally three) battalions of the Nouvelliste de Rouen, he held

nnits. talions. There are three regiments of rangers, and the dacoits of cavalry in the cavalry B. The staff Mountainous countries have ever of a B. (infantry or cavalry) consists favourable to the practice of brighten of the commanding brigadier, an aide-de-camp, the B.-major, and a staff officer. A B. in the full sense of the word is non-existent in Britain in times of peace except during military manœuvres and in military practice-camps. The word, however, is loosely applied to the Life Guards, Horse Guards, and Foot Guards, i.e. the Household B. There are in India twenty-eight territorial Bs. manded by colonels. All troops stationed in a district fall under the B. command of that district irrespectively of the number and type of troops. The colonels, holding such B. command, have office for a term of five years unless they are raised to the rank of major-general.

Brigade-Major, an officer according to Eng. military usages acting to the

der-'the

brigade, having under him a staff of clerks, inspects guards and directs movements. In the British army such offices are held at camps of exercise (e.g. Aldershot), or during active service and manœuvres. officer resumes his ordinary duties when his services as B.-M. are no

longer required.

Brigadier-General (or Brigadier) is the commander of a brigade. His rank varies in different countries, but in the British army on active service it is that of major general. In exercisecamps (e.g. Aldershot, Chatham) major-generals hold also the rank of B.-Gs.; a colonel, however, may hold the position of B.-G. during the temporary formation of a brigade, but he

sions of India for a term of five years. Brigandine, so called from the brigands, was the term used for a coat of mail armour which was worn in the middle ages. It was made of steel plates, fastened on leather or linen, and then covered with some material in order that the metal should not be seen.

Brigands, a name originally applied to mercenary or irregular troops. The word has become degraded in meaning and is now used to designate bands of outlaws who live by rapine and plunder. B. have usually been found to be malcontents or the remnant of a people whose country has been over-run by invaders.

In other European countries gladiatorial bands in ancient Italy, the infantry B. consists of two regi- the later B. of Italy and Spain, the ments, each containing three bat-Scottish raiders. Australian bushtalions. There are three reziments of rangers, and the decoits of Asia Mountainous countries have ever been favourable to the practice of brigandage. Italy, Greece, Corsica, and Spain have been the seats of most violent and persistent brigandage; in these countries the gov. has always been more or less in a state of flux. Competent rural police have crushed the vice out of most civilised countries. but in Sicily, Hungary, and Turkey the practice is by no means yet extinguished. Brigandage has been a favourite topic of romance, but the great majority of B. when judged impartially are unromantic types of character.

Brigantes (from Celtic, meaning 'mountaineers'), a tribe of people inhabiting N. Britain. The district actually occupied was between the Humber, then the Abus, and the Mersey, then the Belisama. Eburacum was their chief tn., and Scapula was the first Rom. to come into contact with them, defeating them dur-ing the reign of Claudius. They were not thoroughly subdued till the reign of Antoninus Pius. They had an eponymous goddess whose name was Brigantia, and mention of her is found in various inscriptions. Near the R. Barrow a branch of the B. settled. in

S.E. Ireland.

Brigantine, see BRIG. Briggs, Professor Charles Augustus, D.D. (b. 1841), American divine, was minister of the Presbyterian Church of Roselle, New Jersey, 1869-74, and from 1874 has been professor at the Union Theological Seminary. He was a famous Heb. scholar. For ten years he was ed. of the Presbyterian Review, 1880-90, and in 1892 he was tried before the New York Presbytery on a charge of heresy, and acquitted. He had questioned the truth of certain statements in the O.T., and exposed the falsehood of some scriptural tradi-tion. In 1889 he became a priest in the Protestant Episcopal Church. A series of publications contain the results of his research and his teachings in theology.

Briggs, Henry (1556-1630), an Eng. mathematician. He was a native of Yorkshire, and born at Warley Wood, near Halifax. In 1581 he obtained his degree at St. John's College, Cam-bridge, and seven years later obtained a fellowship. He was appointed

reader of the physical lecture, an in-stitution founded by Dr. Thomas Linacre. An important change in the compilation of logarithms brought him into close personal contact with John Napier, whose hyperbolic form Notable B. were Sparticus and his had till then sufficed. At the end of the second visit to Napier the new system was pub. in 1617. He received the appointment of Savillan professor of geometry at Oxford in 1619. In 1624 he produced his stupendous Arithmetica Logarithmica, a work containing the logarithms of 30,000 numbers worked to fourteen places of decimals. He died on Jan. 3, 1630, and was buried at Merton College Chapel, Oxford. His life was noted for its abstemiousness, studious application, and contentment.

Briggs, Henry Perronet (1793-1844), painter, joined the Royal Academy as a student in 1811. Most of his pictures have historical subjects, though, after he became an R.A. in though, after he became an A.A. in 1832, he painted many portraits, that of Lord Eldon being considered his best. The National Gallery has ac-quired his 'Juliet and the Nurse,' but his most happy Shakespearian scene is 'Othello relating his Adventures to

Desdemona.

Brighella, It. diminutive of briga, strife, brawl. Name applied to a rustic clown, one of conventional types in old It comedy. Trickster and plotter, always leaving the execution to Arlecchino, another comic character. Dressed in white trimmed with green.

Dressed in white trimmed with green. Brighouse, a tn. in England situated in the W. Riding of Yorkshire, 4 m. E.S.E. from Halifax. Its prin. industry is the making of woollen, cotton, and silk goods. Pop. 24,000. Bright, Sir Charles Tilston (1832-88), an Eng. civil engineer; started actively on his profession, 1850. In 1853 as engineer to the Margatic Telescope.

1853 as engineer to the Magnetic Tele-graph Company he superintended the laying of the first deep-water cable between Great Britain and Ireland, from Portpatrick (Scotland) to Don-aghadee (Ireland). B. organised with Field and Brett the Atlantic Telegraph Company, 1856, himself becoming chief engineer. After two disappointments, he succeeded in laying miles of submarine cable connecting Ireland and Newfoundland, thus being first to establish communication by telegraph between Europe and America. The first cable failed after working sixty-eight days. Later B. laid cables in the Mediterranean, Persian Gulf, and W. Indies. With Clark he discovered improved methods of insulating submarine cables. Their paper on electrical standards caused the formation of the British Association. Committee on the subject. B. was knighted, 1858; in 1865-8 was Liberal M.P. for Greenwich. See the Life by

children, he married Miss Martha Wood, of Bolton-le-Moors, and John B. was the second child of his marriage. He was not a strong boy, and his education was in consequence somewhat irregular. Like Shakesomewhat irregular. Like Snake-speare, he knew 'little Latin and less Greek,' but his natural taste for English literature was fostered and directed by his mother, a woman of excellent sense and firm character. To his constant study of our best authors he owed that command of strong. pure, and racy English which distinguished him throughout his career. He entered his father's business, and, as a Nonconformist, took an active part in local politics, as also in the temperance movement, in connection with which his first public speeches were delivered. He also helped to found a literary and philanthropic society, in whose debates he took part. In 1837 he made acquaintance with Cobden, who was then beginning to speak against the Corn Laws, and very soon joined him, serving on the Manchester Committee which founded the Anti-Corn Law League in 1839. In that year B. married Elizabeth Priestman of Newcastle on-Tyne, but their happy union was cut short by her early death in 1841. During his first week of mourning Cobden came to visit him, and, as B. atterwards said, roused him from despair by calling upon him to give himself to the service of thousands of Eng. homes where mothers and children were dying of hunger. B. responded to the appeal, and thenceforward the two friends were the prin. figures in the league. In 1843 B. was defeated as candidate for Durham, but the victor was unseated on petition, and at the new election B. was returned. He spoke in the House of Commons for the first time on Aug. 7, 1843, and made a favourable impression, though he had at first been received with hostility by the majority of members, on account of his reputation as an 'agitator.' At that time Sir Robert Peel's 'sliding scale 'was in force, by which the price of wheat was not allowed to fall below a certain point, roughly speak. ing sixty shillings per quarter. The league were determined on getting rid of the duty entirely, but were making slow progress until they were seconded in 1845 by a terrible ally, the famine in Ireland caused by the committee on the subject. B. was the famine in Ireland caused by the knighted, 1858; in 1865-8 was Liberal M.P. for Greenwich. See the Life by his son (revised edition, 1908).

Bright, John (1811-89), Eng. statesman and orator, born at Rochdale. His father, Jacob B., was a mill-owner there and a member of the Society of In June 1847 B. married Miss Friends; his first wife dying without Leatham of Wakefield, and in July

was elected for Manchester without poposition. He had now risen to a very high parl, position, and in 1849 took the degree of M.D. at Cambridge, won applause from Disraeli for a great last greech on the question of financial lable knowledge of the doctrines of aid for Ireland. In 1852 he was again returned for Manchester, and took gave him livings of Methlay, 1591, part in the memorable vindication of Peel's policy, when Disraeli's attack shire. His Treatise of Methagy, 1591, and Barwick-in-Elmet, 1594, in York-Peel's policy, when Disraeli's attack shire. His Treatise of Methagy, 1591, hard against the advocates of the more famed Anatomy. B.'s Charac-Crimean War, also against Palmer treie, a method of 'short, swift, and was consequently defeated at Mandelson of Jews to 1816. Willis's Stenography, chester in April 1857, but in August 1602, is the real precursor of our was returned at Birmingham without modern systems. See Shorthand, part in the admission of Jews to 1815.

Bright William (1824-1901), church parliament, and in the transfer of the government of India from the East historian, was at Rugby during Dr. India Company to the crown. Dur Arnold's headmastership, and thence ing the Reform agitation from 1859 proceeded to University College, Oxto 1867 he was one of the leading ford. In 1846 he obtained first-class speakers, and was a chief factor in the return of the Liberals to power under Mr. Gladstone in 1868, when he was made Privy Councillor and President of the Board of Trade. For four years he was kept out of parliament by a serious illness, but in 1873 came once more to the front Chancellor of the Duchy Lancaster. In 1875 he was chairman of the party meeting which elected Lord Hartington as leader on the retirement of Mr. Gladstone, and in 1878 took an impressive share in the debates on the Russo-Turkish War. His severance from Mr. Gladstone began on the Egyptian question in 1882, but was not complete until 1885-6, when he defeated Lord Randolph Churchill at Birmingham by a large majority, and helped to crush the Howe Rule Bill. In 1883 he spoke strongly of 'the Irish rebel party,' and accused them of having exhibited 'a boundless sympathy for criminals and murderers.' Refusing to apologise in the House for these words he was enthusiastically cheered, and at the election of 1886 his influence was predominant in securing the defeat of Mr. Gladstone. This, however, he felt keenly, and he spoke most feelingly of the breaking up of old associations. In May 1888 he was again taken ill, and died in the March following.

Bright, Richard (1789-1858), physician, born at Bristo' Hastralia

cine at Edinburgh and Vienna. In

lection of Reports of Medical Cases, in which he gave the first account of his researches on dropsy with which his name is now associated. B.'s dis-covery that the kidney was the seat of the disease was one of the most

Bright, William (1824-1901), church honours in classics, and from 1847-67 honours in classics, and from 1341'04', held a fellowship of his college. In 1858 he was obliged to give up his tutorship at Trinity College, Glenalmond, which he had held since 1851. His criticism of Henry VIII.'s church settlement had aroused indignation. In 1868 he was appointed regius professor of eccles. history at Oxford. His lectures were remarkable for their fervour and quaint humour. 1895 he was sub-dean of Christ His chief works were A History of the Church, A.D. 313-451, 1860; Chapters of Early English Church History, 1878; and the Age of the Fathers, posthumous.

Brightlingsea, a seaport and par. in Essex, England, situated 8 m. to the S.E. of Colchester. It is on the R. Colne, at its estuary. Pop. 5000.

Brighton, a town in Bourke co...

Victoria, Australia, situated 8 m. S. of Melbourne by rail. Its fine situation on Port Philip Bay has made it a fashionable watering-place. 11,000.

Brighton, a popular watering-place of Sussex, England. It is situated 51 m. S. of London by the London, Brighton, and South-Coast Rallway. The old name of the tn. was Brighthelmstone, which was corrupted about the beginning of the 19th century into Brighton. The popularity of the tn. as a watering-place was not assured "Il 1782, when the Prince of Wales

ent a holiday there in the company the Duke of Cumberland. The prince found the climate agreeable, and built the Pavilion there in 1784 and took up a yearly residence in the tn. Brighton was made a parl. bor. in 1832 and a municipal bor. in 1854. The buildings of the tn. are imposing. Important discoveries in medicine in In 1849 the Pavilion was purchased the 19th century.

by the tn., and is now utilised as a Bright, Timothy (c. 1551-1615), an museum, picture galleries, assembly

room, and concert hall. The concert hall is known as the 'Dome' on account of its magnificent glazed done; it can accommodate 3000 people. The streets are of substantial modern architecture. The promenade is magnificent and extends along the coast for about three miles. A terrace of the finest houses in Brighton fronts the sea. There are many imposing churches in the tn., of which the Holy Trinity Church is famous owing to the preaching of F. W. Robertson. The Aquarium, one of the chief attractions of the place, which is the part of the corporation, has perty of the corporation, has collection, and is used as a cannonert hall. The museum of pirds containing the collectic queathed by E. T. Booth was opened gastronomist, born in 1755 at Belley. The preston and Queen's Parks in 1793 he became mayor of Belley. tions of the place, which is the pro- R.

are the principal public gardens of the To escape proscription he fled from town. There is a racecourse at Kemp France to Switzerland, and subse-Town (the eastern suburb).

sick and lame poor of every country and nation.' Brighton has no maritime trade; there are, however, considerable mackerel and herring The water-supply is derived from the chalk, the sources of which are within a short distance from the town. In the summer the watering-place is the resort of fashionable crowds, chiefly from London. Hence the tn. has been called Londonsuper-Mare. The municipal bor. has

Bright's Disease, see NEPHRITIS.
Brigit, St., of Kildare (other forms,
Brigid and Bridget) (c. 452-523),
known as Bride of Kildare, was
according to legends the daughter of
a prince of Ulster. She lived a life
of seclusion in the woods, and hence the name Kildare-Kil-dara, church of the oak. She is said to have perof the car. She is said to have performed many miracles. St. B., St. Patrick, and St. Columba are the three natron saints of Ireland. The three patron saints of Ireland. The saint is known in England and Scot-land as St. Bride.

Brignoles, a tn. in the dept. of Var in S.E. France. It is famous as being the old summer residence of the counts of Provence. The surrounding country is fertile. Plums are the

ing country is fertale. Plums are the chief products—prunes de Brignoles.

Bril, Mattys (1550-84), an eminent landscape painter, born at Antwerp. Hestudied art in Italy during the pontificate of Gregory XIII., by whom he was appointed to paint sev. frescoes of the Vatican. He showed remarkable talent, but he died when comparating reports. paratively young.

Bril, Paul (1554-1626), a Flemish painter. He was a native of Antwerp, and was led to live in Rome by the success attained by his brother Mattys, of talents inferior to those of Paul. On his brother's death Paul succeeded to his pensions, and adopted landscape painting in which he excelled. 'The Martyrdom of St. Clement' is one of his masterpleces, and it reposes in the Sala Clementina of the Vatican.

Brill, or Rhombus lævis, is a flat-flish of the same genus as the turbot, R. maximus, but it is smaller,

The quently to America, where he played orchestra of a New York He returned to France on of Robespierre and pub. his the famous Physiologie du Godt, a witty compendium on the art of dining.

Many editions and translations of the work have been published. Brilliant, a diamond cut to resemble two truncated cones placed base to

base; the sides are covered with

facets. Brilon, a tn. of Prussia, in the prov. of Westphalia, situated 22 m. E. of Arnsberg. The tn. is of great antiin the quity, and in the middle ages was of considerable importance. Pop. 6000.

Brimstone, see Sulphur.

Brin, Benedetto (1833-98), an Italian naval administrator, worked at first as a naval engineer. In 1873 he became Under-Secretary of State. B. was just the man to carry out the designs of Admiral Saint-Bon, the Minister of the Marine. When in 1876 Depretis appointed him Minister of the Marine, he supervised the con-struction of the great warships Italia and Dandolo. He was for eleven years in the gov., 1876-98; with Depretis and Crispi, 1884-91, and afterwards with Rudini, and during that time he was responsible for the estab. of shipyards and factories for the production of guns, steel plates, etc. As Minister for Foreign Affairs, 1892, he accompanied the King to Potsdam.

he may fairly be regarded as the founder of the Italian navy.

Brindaban, a tn. in the Arra and Oudh district of the United Provs.,

British India, on the Punjab R. It has numerous temples and is a place

of pilgrimage. Pop. 22,000.

Brindisi, a seaport of S. Italy, in the prov. Lecce. Its ancient name was Brundisium. It is situated on a small cape in a bay of the Adriatic Sea. In

267 B.C. it was captured by the Roms. while its pop. speedily reached 100,000. In Horace's Salires reference is made to a journey to Brundisium, and it witnessed the death of Virgil, in The fall of the Rom. empire caused much havoc to be wrought! within the city. It recovered slightly on its adoption by the Crusaders as their chief port under the Normans. But this prosperity was short-lived, and it soon decayed. Wars and earthquakes further aided its hastening fall, and the city underwent great damage. The finest buildings are now in ruins, i Among them are the cathedral (1150) and a castle built by Frederick II. and Charles V. An archbishop has his seat here. The fertility of the district is still remarkable in its pro-duction of olive-oil. The chief exports are wine, spirits, oil, and dried fruits. Naturally the inauguration of the Overland Route revived much of its bygone importance, while its position as a terminus of the Mont Cenis Railway further increased its significance. Within the last fifty years the great improvements to the quays have considerably extended its accommodation, and it is now possible for mail steamers to be pro-vided with 26 ft. of water. It would enjoy a much greater value but for its abandonment by the steamers of the P. and O. Steam Navigation Co., which have called at Marseilles instead since 1898. 25,317. Its pop. in 1901 was

Brindley, James (1716-72), an Eng. He was born at Thornsett. engineer. Derbyshire, and he received a very scanty education. His apprenticeship to a wheelwright seems to have nourished his mechanical genius, for he speedily set up in business for himself and became famous for the insen and became tamous for the in-genuity he displayed. He assisted the Duke of Bridgewater in carrying out his famous causis, and the success of the Manchester Ship Canal must be attributed first to the indomitable genius of B. He died at Turnhurst,

Staffordshire.

Brino-shrimp, or Artemia, is the generic name of some crustacea belonging to the group Phylopoda of the Branchlopoda. They inhabit salt lakes and some interesting experi-ments have been made to provide that with an alteration in the salinity of the water one species changed to another. See W. J. Bateson's Materials for the Study of Variation, 1894.

Brink, Bernard Ten (1841-92), a 267 B.C. it was captured by the Roms. Brink, Bernard Ten (1841-32), a from its previous occupants, the Dutch philologist, born at Amsterdam. Sallenites. Twenty years later the Roms. estab. a colony there, and the In the year 1870 he was appointed th. advanced quickly by reason of its professor of modern languages and splendid harbour. So excellent were literature at Marburg, and in 1873 he the advantages offered by it that it held the same position at Strasburg. became Rome's chief naval station, He has contributed much valuable while its non-speedily reached 100,000, information on Eng. philology. Chief information on Eng. philology. Chief works: Chaucer-Studien, 1870, and Geschichte der Englishen Literatur. 1874.

Jan Ten (1834-1901), Brink, Dutch author, born at Appingadam. He commenced a course of theology. but found that his talents literary rather than theological. 1862 he became a teacher of Dutch at the Hague, and there wrote several books and criticisms of romance. His style is very lucid and elegant, and his criticisms are acute and penetrating. Among his best works are a novel entitled Het verloren Kind, 1879, and a remarkable critique on modern fiction.entitled Causerien or er Moderne Romans, 1885. B. was an omnivorous reader of European literature.

Brinvilliers, Marie Madeleine, Marquise de (c. 1630-76), a noted French criminal. She married the Marquis de Brinvilliers in 1651. She learned the secrets of poisoning from her lover, Jean Baptiste de Gaudin, Seigneur de Sainte-Croix, who had heard it from an Italian, Exili, in the Bastille. B. poisoned her father, two brothers, and a sister, but failed in her attempt to poison her husband, who had been given antidotes by Sainte-Croix. Sainte-Croix d. by accidental poisont ing in 1672, and the investigations as to the cause of his death revealed B.'s crime. She fled, but was arrested near Liège, and executed in Paris, July 1676. See Pirot, La Marquise de Brinvilliers, 1883; Funck-Brentano, Le Drame des Poisons, 4th ed. 1900.

Brionic Islands, a small group in the Adriatic Sea lying near the coast of Istria opposite the tn. of Pola. These islanda have large marble quarries.

Brionne, a tn. in France, dept. Eure. 15 m. N.E. of Bernay. Pop. 3550.

Brioude, the cap. of an arron. in the dept. of Haute-Loire, France, on the R. Allier, 44 m. S.E. of Clermont. It has a church in the Romane-que style of the 12th century. Pop. (1901) 4841.

Briquette (Fr., small brick), the name given to a kind of fuel, made up chiefly of waste coal-dust. It is not very satisfactory for household pur-poses, as it leaves a great deal of ash. but it smoulders for many hours without going out, and can give out a very fair amount of heat. It is also used in various industries. The dust is cleansed and dried and then mixed with pitch in a disintegration, until the two ingredients have thoroughly blended.

Themixture is then placed in a vertical and was posted. 1808 he commanded 'pug-mill;' steam is introduced till the squadron blockading Corfu, cap-the pitch is viscid, and then the mix-ture is left to cool in moulds. Various reduce Ionian islands and establish other embergance in the set as public the contingular republic. 1816 served other substances, such as tar, asphalt, starch, peat, etc., may be used in the manuf. of Bs. They are usually made in sizes of 5 and 10 lbs.

Brisbane, a seaport, cap. of Queensland. Australia, situated on Brisbane R., about 25 m. above Moreton Bay. It was first settled as a penal station in 1825 by Sir Thomas Brisbane (q.v.), governor of New S. Wales. The convict station was broken up in 1839: in 1842 B. was opened for colonists: and in 1859 it was incorporated. The tn. has four divisions, North B., South B., Kangaroo Point, Fortitude Valley. It is the seat of an Anglican bishop and a Roman Catholic There are many fine

ings, including the Hou

lature, the Town Hall, the Queensland Club, a museum, a technical college, and a school of arts. In 1893 the channel of the river was dredged and deepened, so that steamers can come up the river and berth at the wharves. There is regular communication by steamship with other Australian ports, B. being one of the chief centres of trade. The prin. exports are: cotton, wool, tallow, hides, sugar, and frozen meat. The climate is healthy and dry; the mean tempera-ture is 70° F. in the shade. The tn. The tn. has suffered from the flooding of the river, notably in 1893, when much of South B. was destroyed. There is a notable racecourse at Eagle Farm. Pop. (1901) 54,315; with suburbs 119,428. Brisbane, Sir Charles (c.1769-1829),

distinguished British admiral, entered navy 1779, being present as midship-man at battle of Dominica, 1782. B. served under Rodney, Hood, and Nelson. In 1796 he was posted after being present at Bridport's action off Genoa; was made captain for his capture of Dutch ships in Saldana Bay. He helped to cut out the Chevrette from Camarat Bay, 1801. Commanded Arethusa, and with the Anson destroyed the Spanish Pomona and ten gunboats off Havana, 1806. His finest exploit was the capture Curação and sev. Dutch vessels,

Knighted for this by George K.C.B. 1815; vice-admiral, governor of St. Vincent, 1808-29 Ralfe's Naval Biography, iv.; Mag. 1830.

Brisbane, Sir James (1774-1826), a British naval officer, brother of Sir Charles B. Midshipman in Queen Charlotte at Howe's glorious, First of June victory, 1794. As lieutenant served at the reduction of the Cape of Good Hope. 1801 B. was present at the bombardment of Copenhagen.

the septinsular republic. 1816 served at bombardment of Algiers and was knighted. As commander-in-chief in the East Indies he concluded the first Burmese War, 1825. See Marshall's Royal Naval Biography, iii.; James's Naval History, vi., 1860; Nelson Despatches, iv.

Brisbane, General Sir Thomas Mak-dougall (1773-1860), a soldier and astronomer, born at Largs, Ayrshire. He served in Flanders, the W. Indies, Spain, and N. America, and in 1821 became governor of New S. Wales. The reforms he advocated in penal treatment and the encouragement he immigration were severely

but he promoted the culland. While in Australia of land. he catalogued 7385 stars, and founded an observatory at Brisbane, a town called after his name. He also estab. observatories at Largs and at Makerstoun in Scotland, and became president of the Royal Society of Edinburgh.

Briseis, a m also known as . cause of the qua and Agamemno '

hands of Achilles when Lyrnessus was taken by the Greeks. Agamemnon took her away from Achilles, who thereupon refused for a time to appear on the field of battle.

Brisighella, a tn. in the Italian prov. of Ravenna, situated 7 m. to

the S.W. of Faenza; pop. 14,000. Brisson, Barnabé (1531-91), a Fr. lawyer. In 1575 he became advocate under Henri III., and later was sent as an ambas, to England. After the death of Henri III. in 1589 he became the leader of the people. He vacillated, however, between the royalists and the people, and being suspected was arrested, in spite of a warning to flee, by order of 'The Sixteen,' and put to death at once. Among his chief writings are: De formulis et sollem-nibus Populi Romani verbis, 1583; Le Code du roy Henri III., 1609. See P. Le Bas, Dictionnaire Encyclo-

e Henri (b. 1835), a is called to the bar in 1879 he was Vice-Assembly, and Presiwas Prime Minister four years later, but it was during his

four years later, but it was during mis presidency of the Chamber, 1895-8, and his ministry, 1898, that he dis-tinguished himself by his judicious administration at the time of the Dreyfus trial. He was also president of the Panama Commission, and one of the three founders of La Revue Politique.

1806), naturalist and author, born at Fontenoy-le-Comte. He was a pro-fessor at the Collège de Navarre and at the Ecoles Centrales in Paris. Some of his best known works are those on his Ornispecifique

Raisonné

de physique, 2nd edition, 1800.
Brissot, Jean Pierre (1754-93), a Fr. Girondist. He was a native of Chartres, and the son of a Fr. inn-

1781, and Bibliothèque philosophique du législateur, 1782. The dedication of the former work was to Voltaire, who showed great approval. The periodicals, the Mercure, the Courrier de

After an unsuccessful attempt to found a newspaper in London, he was sent to the Bastille on a charge of sedition. His release only meant the renewal of his revolutionary activities, and he was compelled to seek asylum in London. He founded the Société des Amis des Noirs as a result of his acquaintance in London with prominent abolitionists. The Revolution found in him an ardent champion. The keys of the Bastille were given to him on the destruction of the prison, and he was elected a member of the legislative assembly and later of the National Convention. The vicissi-National Convention. The vicissi-tudes of the following period of change and variation saw his arrest with other marked Girondists, and he died with them on Oct. 31, 1793. See Mémoires de Brissol, Paris, 1830.

Bristles, the strong, stiff hairs grow-ing on the back of the hog and the wild boar. They are used in the manufacture of brushes, and by shoe-makers and saddlers. The quality of the B. depends on length, stiffness, colour, and straightness. The longest and strongest are yielded in relatively small proportion, and are of high these are not made into value: brushes, but are bought by shoemakers. As to colour, the white B. are more valuable than the black and grey ones. Great Britain imports vast quantities of hogs' B. from Russia, Germany, France, Belgium, China chiefly, with smaller supplies from Denmark. Holland, the United States and the East Indies. The hog of cold countries yields the best B.; those coming from Russia (with Siberia) are the most valued, but France produces excellent white ones. The long thin animal of the N. becomes fat in the S., and its B. deteriorate, becom-

Brisson, Mathurin Jacques (1723-1ing softer, shorter, and less straight. The hog sheds its B. by rubbing itself against the trees.

Bristol, a city, municipal, co., and parl. bor., and seaport of England. Most of it is in Gloucester, and part in Somersetshire. It is situated 6 m. from the mouth of the Avon. The old tn. originally occupied a position wholly on the N. of the Avon. The alteration of the course of the Frome by digging, in 1248, a fresh channel, and the erection of a bridge spanning the river, Charters, and the solod education added to the area of the city, linking he entered a lawyer's office. The it also with Redeliff, owned by the influence of Rousseau is discernible Berkeleys. Later all the dists. were in his Théorie des lois criminelles, joined in 1373, though not without violent opposition from the lords of Berkeley. The tn. contains a splendid array of architectural beauties of considerable antiquity. The cathedral still shows its Norman chapter-house and fine gateway. Other churches are and the gateway. Other chiness are St. James's, a Norman structure, St. Philip's, St. Peter's, the Temple Church, St. Stephen's, and the famous edifice St. Mary Redeliff. The centres of education are Uni-College, College. versity Clifton Elizabeth's Hospital, Queen Maid's School, and Colston's Schools. The earliest mention of B. on coin is about 1000, and the wealth of the tn. at that time was chiefly derived from the export of slaves to Ireland. During the wars of Stephen it was besieged. Henry II. gave the tn. its first charter in 1171, and also conceded the tn. of Dublin to B. residents. A siege Dublin to B. residents. A siege occurred during the reign of Edward II., who was unable to reduce the tn. to obedience for four years. It was recognised as a 'staple' tn. in 1353, and enjoyed a considerable trade in and enjoyed a considerable trade in wool, leather, wine, and salt. In discovery, colonisation, and marine enterprise B. played a large part. Cabot sailed from the town on his voyage of the discovery of N. America in 1497, while his son, Sebastian, proclaimed the city his native tn. A considerable trade with the American siderable trade with the American colonies was estab., and it was men of B. who colonised Newfoundland. In 1643 the city was captured by Prince Rupert, and later, in 1645, by Fairfax. A name honoured by a day being set apart for his celebration is that of Colston, a philanthropist. Many famous names are associated there: Sir Grocyn, Wraxall, Cottle, Sir T. Lawrence, and Beddoes, while Southey and Coleridge spent many of their youthful days in the city. In 1774 youthful days in the city. Burke was returned for its representation in parliament, though he declined the honour in 1780. The famous B. china was introduced by Champion, and the genuine article is only that produced between the years 1773-81. Suffering and damage was caused by

theriots in connection with the Reform and its depth between 5 and 40 Bill. The famous Great Western, the fathoms. It is Britain's largest inlet. first steamer intended for trans- Its coast-line is 220 m. Therivs. Towy, large amount of consideration for especially

inual tonnage ief industries walks, chocoofineries, pipe

pottery, soap, boots, brewing, copper and lead goods, chemicals, trop goods, chemicals, brewing, iron goods, chain-cables, and buttons. There are some coal-fields in the neighbourhood. Its pop. in 1901 was 328,945. See Barrett's History of Bristol, 1789; Nicholl and Taylor's Bristol, Past and Present, 1881.

Bristol, a co. in the E. of Rhode Is., USA, area 25 ca. b. It company

U.S.A.; area 25 sq. m. Its cap. and see port of entry has the same name, and to a situated on Narragansett Buy, on a the New York, New Haven, and Hartford Railroad. There is a fine harbour converse that the third that the state of the same than the same transfer of the same transfe where shipbulding is carried on. There are manufs. of rubber, cotton, and woollen goods. It is believed that the town was visited by Norsemen in 1000, and is referred to in certain Icelandic sagas. Pop. (1905) 7512.

Bristol, a bor. in Bucks co., Penn., U.S.A., on the Delaware R., 23 in. N.E. of Philadelphia. It has carpet, begieger wars and and wall-paper.

hosiery, worsted, and wall-paper factories. The first settlement was in 1681; incorporated 1720. Pop. (1900) 7104.

Bristol, a town of Hartford co., stock.
Connecticut, U.S.A., situated 1"
W.S.W. of Hartford, on the York, New Haven, and Hartford.
It has manufs. of clocks, brass goods, engines, etc. Pop. 10,000.
Bristol, a town of Sullivan co., Iman of Tonnessee, U.S.A., situated 130 m.
E.N.E. from Knoxville. The town, second which is on the Southern and the Norfolk and Western railways, lies in possparity in Tonnessee, and partly in Islands

Noriolk and Western rallways, lies partly in Tennessee, and partly in Virginia. Among its institutions are the Presbyterian College (1868), Sultins College, and the South-West Virginia Institute. The prin. manufs. are furniture, paper, tolacco, etc. Pop., including the part in Virginia, 11,000.

Bristol Bay, an arm of Behring Sea. lying to the N. of the peninsula of Alaska. Communication with the

Communication with the interior is opened out for a considerable distance as two large lakes

empty themselves into this bay. It is in lat. 57° 30' N., and long 160° W. Bristol Channel, an inlet of the Atlantic Ocean, situated in the S.W. of England. It has S. Wales to the N., of England. It has S. Water to and Devon and Somerset on the S. It forme on automator of the och

Atlantic trade, was built there in Taff, Usk, Wye, Severn, Avon, Axe, 1838. The docks have received a Parret, Taw, and Torridge flow into it. A feature of the channel is its exat traordinary tides, which rise to a ge height of 35 ft. at King Road at the ics mouth of the Avon, and even 70 ft. at Chopstow. This violent rise causes the bore, a rush of the tide in the form of a wall of water. Its bays are Carmarthen, Swansea, Cardiff. Bideford, Hiracombe, Minehead, Por-lock, and Bridgwater.

Brisure, a term defining a break in the direction of a parapet in fortification. It occurs in the curtain when constructed with orillons and retired flanks.

Britain, Ancient. From the re-

av and Neolithic man have been discovered, and by the help of geology and archeelogy we are able to know the periods but not the duration of the periods during which these prohistoric men existed. Palmeelithic man inhabited a very different B, to our own, and it was only after the great Ice A the physical

has. Both man belonged to a non-Aryan race, they w

N. of Scotland. Probably Neolithic man did not become extinct, but mingled in the course of time with the Goldels, especially in Ireland. The second immigration was that of the Brythones or Britons, tribes that were in possession of the S. and S.E. of the islands when the Roms. landed there for the first time. These tribes were probably closely allied to the Celtic tribes of Gaul, and the contraction of Gaul, and tribe names we

of origin, e.g., Britain and of G modern Lincolnshire and of Gaul. The modern Lincolnshire and of Gaul. The discovery of B. belongs, if it belongs to any one, to Pytheas, although B as the 'Tin Islands' had probably been known for some considerable time. The discovery that it was an is seems to have been made by Calus Julius Agricola. The invasions of Carsan were carried out with the terms. Casar were carried out with the twofold idea of extending the glory of the Roman arms and of obtaining some linfluence over an is, which Cæsar re-garded as being the centre of the re-cruiting ground of the insurgents of Gaul. The Roman invasions and con- heir; and Nero, after his accession, quest began in reality some 100 years had his half-brother poisoned in 55. by the hand of his general, Aulus Society, first met in 1837. Its original Plautius, A.D. 43. The conquest was president was the celebrated Thomas assumed better lines under Agricola, present office is 51 Denison House, 296 and by A.D. 80 may be said to have Vauxhall Bridge Road, London, S.W. been accomplished. The Romans un-British and Foreign Bible Society, see doubtedly taught the Britons much; BIBLE SOCIETIES. doubters, tagget the british account of scientists whose object is to pro-built walls to keep back the maraud-ing Pict and sea-rover. They taught mote the advancement of science in to make pottery, and how to make sev. sections, each of which has its own weapons and utensils of all descriptions of metal. But the Roman occupation was almost entirely a military and Physics; B. Chemistry; C. one, and when the Romans departed B. Geology; D. Zoology; E. Geography; quickly became the prey of the roving tribes of Germany. But that the Engineering; H. Anthropology; I. British actually were so enervated Physiology; K. Botany; L. Eduand effeminated as a result of their was Sir David Brewster, though many not having had any power themselves, eminent men of science were assonable to be proved.

on the departure of the been found and preserved; it is also probable that the Romans introduced Christianity into B. among other

religions.

Britain, Great, see GREAT BRITAIN. Britannia, see BRITAIN, ANCIENT. tin and antimony, a usual formula being tin, 90 per cent.; antimony, 7.5 per cent.; copper, 1.5 per cent.; now being rapidly displaced by nickelsilver. It gives sharp castings and takes a good polish, and is used for teapots, spoons, etc., which are now renerally silver plated. When struck hollow, articles made of the metal emit a dull sound in contrast to the sonorous tone emitted by nickelsilver.

Cæsar Claudius (A.D. 42-55), the son and Melbourne. Cæsar Claudius (A.D. 42-55), the son and Melbourne. of the Emperor Claudius and his wife British Central Africa, the name of Messalina. His title 'Britannicus' a large dist, between \$\colon 2.5' S., on Lake was given in 43, after his father's Tanganyika, and \$17.5' S., on R. Shirê, victories in Britain. After the distriction of the mother, Claudius was prevailed upon to adopt Nero, the son British protectorates lying N. of the of his second wife, Agrippina, as his Zambesi in Central Africa. It in-

British and Foreign Anti-Slavery not accomplished without bloodshed, Clarkson. As its name suggests, it nor yet without a struggle, as witness, was founded with the object of put-ed the massacre at Mona of the Druids, ting an end to slavery and slave A.D. 60, and the revolt of the Iceni, traffic all over the world, and of pro-when one of the four Roman legions; tecting all who were recently eman-found a grave in B. The conquest cipated in any British dominion. Its

the Britons how to build houses, how all its branches. It is divided into to make pottery, and how to make sev. sections, each of which has its own

ie constitution of the society these attacks had been made before. was decided upon, and in the follow-The English came in A.D. 449, but we im year, at Oxford, various reports cannot say that during the next 200 were read on subjects previously rears they had conquered the British, assigned. The association holds its but rather that the British put up a annual conference at different places good fight against them during that in the United Kingdom (in 1884 and period. Many relies of Roman B. have 1909 it was held at Montreal and Winnipeg, Canada, and in 1905 at Capetown and Johannesburg, South Africa), the tn. being determined two years in advance. The surplus of its income, varying between £1000 and Britannia, see Britain. Ancient. £2000 per annum, is given to private Britannia Metal, a white alloy of persons and to institutions for the promotion of scientific research work.

Office, Burlington House, London, W. British Astronomical Association bismuth, I per cent.: the last addition was estab. in 1890 to stimulate the increasing the fusibility. Initially interest of the public in astronomy. used as a substitute for pewter, it is to encourage co-operation among amateur observers, and to circulate among those interested all fresh discoveries or other current astronomical information. Its membership is over 1000, and it controls twelve 'observing sections.' Meetings are held at Sion College, E.C., but the office address is 136 Rodenhurst Road, Clapham Park London, S.W. Branches Britannicus Tiberius Britannicus have beenformed in Glasgow, Sydney,

cludes the protectorates of Nyasa-coloured, and speak Bantu. The land, N.E. Rhodesia, and part of Arabs were the first foreign settlers, N.W. Rhodesia. The area is about but they were driven out by the 250,000 sq. m., in which dominion Portuguese and now are rarely met of the lakes with in the Zambesi. They estab., Mweru, Bang-however, large slave-trading centres. entire courses of the rivers Shiré, Luangwa, Chambezi, Luapula, Luanga, and the Kafue. Smaller stretches of water are the Great Mweru Swamp, Moir's Lake, and Chilwa, a salt lake. A large part of the country is formed of high plateau land whose average alt, is the ter. reached £277,000, the chief 3500 ft. The country on the banks commodities being coffee, rubber, of the Shiré is the only low land. All cotton, tobacco, and ivory. Light the lakes are more than 2000 ft. steamers ply up the Zambesi to Port Herald, from which place barges are of Chilwa, which is 1946. Mt. Mlanje is the highest peak in the S.E. It in the dry season when Port Herald has soverel craters on its sides. Other is inaccessible to all steamers. The part of the country is formed of high is the highest peak in the S.E. It in the dry season when you because has several craters on its sides. Other is inaccessible to all steamers. The mts. are Chongone, Dedza, Zomba, district is traversed by a trans-contichiradzulu. The chief mt. systems are Shire Highl statement. The mental telegraph line. From Port are Shire Highl statement. The mental telegraph line is the state of the statement of the statement of the statement of the statement. Nyika plateau, plateau, and the Mts. The minera deposits of gold lands and to the The official cap. is silver and lead in the Nyasa-Zambesi Zomba_at the foot of Mt. Zomba. iands and to the silver and lead in the Nyasa-Zambesi Salver and lead in the Nyasa-Zambesi Nomba at the foot of Mt. Zomba water-parting; iron ore and mica everywhere; coal, limestone, malachite, and petroleum The dist. does not include any forest area of W. Africa. The country is generally well Fort Johnston, Kotakona, Likoma, Karonga, Abercorn, Kalungwisi, and Karonga, Abercorn, Kalungwisi, and Chiradzulu Mts. The country is generally well Fort Rosebery. The history of watered and covered in vegetation. On the Mlanje and Chiradzulu Mts. tropical forests are seen, but there is country was Dr. Lacerdu e Almeida, no indication of the great tree areas found elsewhere. Tobacco is among the vegetable products, as is coffee, who discovered Lake Nyasa. His rubber, strophanthus sap (a drug), ground nuts, cotton, maize, rice, area of Central Africa. Numerous wheat, and many palms. Nearly all European vegetables take kindly to he for the pine-duct of rapidly increasing importance and development is becswax. Animal life is numerous in species and the number of its different representatives. A resemblance is noticed to the African Lakes Trading Corporatives. A resemblance is noticed to the adjacent districts save where these aringes needing a development in 1885-96. An unofficial war was remore there arings needing a development in the foot of Mt. Zomba. Other European settlements include Port Hards, Other European settlements include Port Anderson, Other European settlements include Port Anderson, Chotachon, Kotakon, Chotachon, Kotakon, Chotachon, Chotachon, Chotachon, Chotachon, Chotachon, Kotachon, Chotachon, fauna of the adjacent districts save from 1885-96. An unofficial war was where those animals needing a drier sudertaken by the company. In 1889 clime are not seen here so much, for example, the oryx antelope, ostrich, attempted a pacification, with the and gazelle. In the Luanga valley result that the protectorate was the giraffe is found, and in the N.E. officially formed, and in 1891 John-the elephant is met with in all parts, while the lion, leopard, and zebra are lut the struggle continued and was found in great numbers. The rhino-temptification was its imperial commissioner. While the struggle continued and was found in great numbers. The rhino-temptification was unofficial war was undertaken by the company. In 1889 and Mrs. In 1890 Mr. (subsequently Sir) H. H. Johnston example, the oryx antelope, ostrich, attempted a pacification, with the protectorate was the giraffe in the protectorate was the giraffe in the protector was in the protector of the protection of the protection of the protection of the protector of the protection of the

on the coasts of Lake Nyasa. total pop. is approximately 2,000,000 of natives, while Europeans number some five or six hundred, including British, Germans, Dutch, French, Italians, and Portuguese. In 1905-6 the total value of the commerce of the ter. reached £277,000, the chief ft. above sea-level, in the dands. It was founded in named after Livingstone's fauna of the adjacent districts save from 1885-96. An unofficial war was ceros is seldom seen. Other animals trading. The Arabs and Moslem Yaos ceros is seldom seen. Other animals trading. The Arabs and Moslem Yaos are: hyena, hippopotamus, seven species of monkey, crocodile, water-buck, hartebeest, gnu, and eland. The sole representative of the human race indigenous to the country is the negro. The term includes Bantu, Hottentot, Bushman, and Pygmy. To-day the natives are black and chocolate Lakes Trading Company qualified penditure over the revenue are at present met by imperial grants and payments by the British South Africa Company. The attitude of the natives is friendly, and the only fault to find with this richly endowed land is the unhappy havoe wrought upon European constitutions by its climate. pean constitutions by 168 chinate. The chief scourges are malaria, blackwater fever, and dysentery. Bibliography: Narrative of an Expedition to the Zambesi, D. and C. Livingstone; Tropical Africa, H. Drummond; British Central Africa, Sir H. H. Johnstone Charles and Control of the Martine Scott

ston; Journal of the African Society. ston: Journal of the African Society. British Columbia, a prov. of Canada. Its boundaries are: on the N. 60° lat.; on the S. the U.S.; on the W. the Pacific Ocean and part of Alaska; and on the E. the prov. of Alberta and the Rocky Mts. Its area, including Vancouver Is. and Queen Charlotte Isles, is 390,344 sq. m. Till 1858 the Dominion was under the sway of the Hudson Bay Company, but the discovery of gold and the following immigration caused it to be made a crown colony in 1849. Recognised thus, it was leased to the Hudson Bay Company for ten years. In 1866 Vancouver was included, and on July 20, 1871, the united provs. joined the Canadian Federation. The surface presents a noble appearance. Lofty mts., wide rivs., extensive lakes vary the view. The Rocky Mts., whose highest peaks are Mts. Brown (16,000 ft.) and Hooker (15,700 ft.), flank the W., while the intermediate land onwards to the sea consists entirely of extensions of this mighty system. Close to the coast these spurs are called the Cascade range. Of the plentiful supply of rivers, which rise in the highlands and flow to the sea, the chief is the Fraser, 800 m. long and 600 yds. wide where it enters the sea at the E. of Georgia. This inlet separates Vancouver from the mainland. Other rivers are the Columbia (its upper course only), the Stickeen, the Skeena, and the Finlay. The climate is diverse. A climate resembling that of England is found in Vancouver and the coast opposite. For the purposes of understanding clearly the climate of the remainder it is necessary to break the country into three zones or belts. The S. is found between 49° and 51° N. lat. Here rain and snow are experienced in small quantities only. Large areas of pasturage are here, though for agric. purposes irrigation is required. As far as 53° N. lat. extends the middle zone. Here are the high mts. of W. Columbia. Large forests are found on their slopes, and, as in the S. region, the rainfall is small. Between 53° and 60° lies the N. zone. The

him for the post. Excesses of ex-pop. was 49,459 in 1881, and this penditure over the revenue are at return included 25,500 Indians. Today it is 363,000, but the number of Indians has dropped to insignificance. Victoria is situated on Vancance. Victoria is studed on van-couver Is, and is the cap. Nanaimo is another tn. of Vancouver. The tns. of the mainland include New West-minster, the old cap., and Vancouver. This town is the terminus of the Canadian Pacific Railway. Those Indians who lived on the coasts existed by fishing and hunting, while many were employed in the timber yards and salmon canneries. B. C. three members may be sent to the Dominion senate, while in the House of Commons seven are entitled to a seat. A lieutenant-governor, appointed and remunerated by the senate, administers its affairs. He is assisted by forty - two members of a legislative assembly. The chief settlements are found on the E. and S. coasts, but this does not mean that elsewhere no good land is to be found. On the contrary, excellent areas are situated on the E. and N. coasts. Probably the finest area in the whole of the Dominion is the fertile area of the Lower Fraser. This richly en-dowed district is compact, which gives it a great value, and very rich. Further up the Fraser are large alluvial tracts. Promise of the large adoption of fruit growing has already been realised, and to-day that industry continues to advance and reap bountiful profit. Other industries are mining, fishing, and lumbering. The mineral wealth of the country is very great. The deposits include gold, obtained so far almost from alluvial deposits, with rare recourse to quartz, coal, silver, iron, copper, galena, mercury, platinum, antimony, bismuth, plumbago, mica, and molyb-Numerous salmon denum. neries are in operation. Among its timber are magnificent forests of Douglas pine, Alenzies fir, yellow cypress, maple. The prov. is fortunate in its position regarding commercial value, and it is no doubt destined to become a medium for trade between China, Australia, and Canada. A steamship route already connects Vancouver with Hong-Kong. British Cotton-growing Association. First formed in England June 12.

1902; incorporated by royal charter 1904, first meeting of the council taking place in Manchester in Sept. Ite aim was to exploit new sources of cotton-supply within the British Empire, thus preventing the Lanca-shire cotton-trade from being almost entirely dependent on the United States crops, and protecting it from the disastrous consequences of a shortage and fluctuating prices. The

year 1904 was the worst for the cotton 'implying all the territory the inhab. trade since 1861, and the Lancashire producers found it essential to seek supplies in other quarters besides U.S.A. Experiments have been made from 1902 onwards to prove that the British colonies, dependencies, and protectorates, can produce as much cotton as Lancashire needs. The association has met with valuable official support. It has given financial assistance when urgently needed, and estab. ginning and buying centres. Professor Wyndham Dunstan of the Imperial Institute made favourable reports on the possibility of extending cotton-cultivation. It has been largely encouraged in India, the W. Indies, the Gold Coast, W. Africa, Nigeria, E. Africa, British Guiana, and Australia, in many cases directly the association.

British East Africa, an extensive equatorial ter., comprising the East Africa Protectorate, the Uganda Protectorate, and the islands of Zanzibar cectorate, and the islands of Zanzibar and Pemba (all of which are dealt with in separate articles, q.r.). It is situated between Italian Somaliland. Abyssinia, and Egyptian Soudan and the Indian Ocean on the N. and E., and Ger. East Africa, the Congo Free State, and Fr. Ubangi on the S. and W. Theates I are has been estimated. W. The total area has been estimated at 1,000,000 sq. m., with a pop. of over 7,000,000. The European and British pop. is increasing. The counchief exports are rubber, ivory, gum-copal, and hides. The ter formerly be-longed to the British East Africa Co., until it came under the British sphere of influence. It was then under the im-

of which look to the King of Great Britain and Ireland as their ultimate brian and related as their mitmate head. The extent of the B. E. is conveyed, to a great extent, in the now somewhat hackneyed phrase 'the empire upon which the sun never sets,' yet in justice to the phrase we must own that it is true, and that of the whole area of the land-surface of the globe the B. E. occupies nearly one quarter. In fact, of the 52,500,000 sq. m. which is roughly the extent of the land-surface of the earth, the B. E. occupies 11,306,000. sq. m. The empire is fairly evenly divided as between the northern and southern hemispheres, but from the other possible division, i.e. in the eastern and western hemispheres, the greater part of it lies in the eastern. The empire contains some of the fairest and Australia, in many cases directly part of it lies in the eastern. The under the auspices of the association is empire contains some of the fairest W. Indian cotton is found to be and most productive of all lands in especially good, fetching even higher the world; lands that contain great prices, sometimes, than the famous wealth of gold and of precious stones. American grown 'Sea Island.' Head. It has amongst its rivers the largest offices: 15 Cross Street, Manchester, and the greatest in the world, and For further details see publications of part of it is bounded by the greatest chain of mis in existence. In these chain of mts. in existence. In those parts of the empire where large colonies of white men are to be found. it is seen that the influence of environ-ment is gradually beginning to modify the original race, and colonists may now be known by the differences of type which continuous dwelling in various lands has brought about. It is quite possible now to differentiate between the Canadian and the Cornstalk, the S. African colonist and the Englishman. In these days of easy and quick transit, when communication between the mother country and the colonies is a question only of days. British pop. is increasing. The country is watered by the Upper Nile, the and not, as formerly, of weeks or Bahr-el-Ghazal, the Sobat, Tana, and Sabaki rivers. It stands on a high plateau of 3-4000 ft. The chief lakes, part or all of which are included in the ter., are Victoria Nyanza, Albert, bowever, preserves almost exactly the Albert-Edward, Stefanie, and Rudolf. the ter., are Victoria Nyanza, Albert, however, preserves almost exactly the Albert-Edward, Stefanie, and Rudolf, type of the home Britisher, and the Iron and copper are found, and the resemblance in climate and characteristic is very great between the two countries. The types of race found in the pop. of the B. E. are many and various. Dividing broadly the pop. of the B. E. into the two divisions of white and coloured, we find that mediate control of the Foreign Office, of white and coloured, we find that but in 1905 it was taken over by the the white pop. numbers, according to Colonial Office. Consult Purvis, the census of 1901; roughly about Handbook of British East Africa and Uganda, 1900; Lugard, British East 344,000,000. The detailed census Africa and Uganda, 1932; and The reports for 1911 are, except in the Rise of our East African Empire, rough aggregate, not yet known, and the detailed census reports are not yet. Here of our Lass African Empire, 1893.

British Empire, the name usually given to imply the full extent of the name of the British gov. The term, including both self-governing and races, said, 'Of the 344,000,000 of crown lands, may best be taken as coloured pop. over 295,000,000 were

either natives of India or descendants; country led to the gradual adoption of Indian emigrants, 3,500,000 were natives of Ceylon, and a further 2.500.000 were natives of other E. African possessions. Natives of the W. African colonies numbered nearly 29,000,000; the S. African colonles contained over 5,500,000 of coloured persons; other African possessions over 7,000,000, and our W. Indian possessions about 1,500,000. The coloured pop, enumerated in the Dominion Canada numbered over 167,000, of the Australian Commonwealth 120,000, and in Polynesia and British New Guinea about 500,000. The total pop. of the B. E. in 1911 was given as 416,318,000, which pop. was made up in the following way: United Kingdom 45,216,665, , Australia of Co 314.955,240, 4,455,005, 7,081,869, Dominion Union of S. Africa 5,958,599; these were the chief returns made. The five prin. divisions of the B. E. are: the United Kingdom, India, S. Africa, Australia, and Canada. These are Australia, and Canada. These separated from each other by three greatest oceans, the Atlantic, the Pacific, and the Indian. The follow-ing is a short history of the acquisition and development of the great divisions, further details of which should be sought under the articles relating to them.

India.—The foundations of the great empire in India were laid during the great struggle of the 18th century between England and France for world supremacy. The foundation of the E. India Co. towards the end of the reign of Queen Elizabeth had only been a late attempt on the part of the Eng. to put themselves on an equality with the Dutch and the Fr. in the Indian Peninsula. The struggles between the Fr. and the Eng. in Europe, which may be said to have begun with the accession of William III. and to have ceased with the overthrow of Napoleon at Waterloo in 1815, were reproduced on a smaller scale in India, and the idea of an Indian empire under a European power may be said to have originated with Dupleix the Fr. leader, and not with the Eng. The E. India Co. had fallen indeed upon evil times during the early part of the 18th century, and Fort St. George was captured by the Fr. in 1746, only to be restored by the Treaty of Aix-la-Chapelle in 1748. The appearance of Clive on the scene during that struggle was the saving of the E. India Co., and during the next war he showed his skill as a general, and it was as a result of his victories between 1756-63 that the idea of the adoption of sovereign rights occurred to the directors of the E. India Co.

of the same policy in other parts of the land, and gradually practically the whole peninsula passed into the hands of the British. The methods usually adopted were those of conquest or treaty, and although at the end of the 18th century the company did not hold sovereign rights over a great extent of ter., her policy had been formulated, and that policy was continued during the 19th century. until at the present time we find that the empire of India contains the whole of the Indian Peninsula. One of the results of the Mutiny was that the E. India Co., the old John Co., was disbanded, and the gov. of India passed into the hands of the imperial government in 1858. Nineteen years later, by the Royal Titles Act, the queen was proclaimed empress, and the imperial title has been borne by our rulers ever since. King George V. was the first reigning monarch to visit the country and to a coronation durbar hold This he did in the year following his coronation in this country, i.e. at the beginning of 1912. The following is a list of the prin. annexations which have been made of the ter. which goes to form the great Indian empire: United Provinces, 1856; Central Provinces, 1817; Eastern Bengal and Assam, 1826; Punjab, 1849; Burma, 1852; Baluchistan, 1876; N.W. Provinces, 1901. The dates given are in almost every case the date by which final annexation or conquest

has taken place.
United South Africa.—This federation of colonies has only been in existence since 1910, when the federation was brought about by the Liberal gov. The S. African War of 1899-1902 had led to the annexation of the Transvaal and the Orange River Colony, and after the grant of responsible gov. to each of these colonies, a step which placed them on an equality with the other S. African colonies, a conference between the leading men of each colony brought about the federation of the colonies into a United S. Africa. The Dutch party were in the ascendant, and Louis Botha, one of the Boer generals who had fought continuously against the British during the late

nier of United the colonies is best followed separately.

Cape Colony.—The original native the Hottentots.

only aboriginal

who are a degenerate race, both in language and customs, and who are rapidly declining before the oncoming The beginning of sovereignty of the civilisation of the white races.

Hottentots the aro native tribe of Cape Colony, they lack organisation and inclination for war, and are treated as a servile race. The importation of slave races into Cape Colony was rendered necessary at one period in the history of the colony owing to the disinclination of the Hottentot for settled work and the labour which was necessary in order to force him to do that work. Bantus are a much more warlike and flerce nation, and they had when first found a crude civilisation and culture. Their war organisation was quite good, and they showed them-selves to be very warlike. The Zulus, Bechuanas, and Kuffirs all belong to selves to be very warlke. The Zuius, almost infineduate renewal to ne war bechunans, and Kuffirs all belong to reconquered, and finally passed into this warlike race. Cape Colony was British hands in 1815. Englishmen the Cape previous to a in 1815, but no real been made. When the

The Cape of Storms, so called by Diaz, had been renamed the Cape of Good Hope by the King of Portugal, who had hoped that the route to India would be found beyond it. His expec-tations had been realised by da Gama in 1497. No occupation of actual ter. took place there for some very considerable time, and no white man landed there save from necessity, and on one or two occasions on punitive expeditions. Finally, the Dutch, at war with Spain towards the close of the 16th century, and since Spain had annexed Portugal, at war with Portugal also, began to use Table Bay as a frequent place of call. Finally, in 1652, the Dutch made a settlement at Cape Town, but merely a settlement which was to be used as a port of call, whither ships passing on the way to India might call for supplies of vegetables and fresh meat. During the rest of the century settlements gradually assumed larger proportions. The settlers were protected by the gov, on the conditions that they supplied the ships with provisions at a fair rate. The Hottentot wars, rising from differences with the settlers, led to the beginning of the breeding of cattle by the settlers in order that the ships might not be dependent upon the natives, and the number of immigrants continued to During the next century increase. the colony expanded considerably, and the burghers began to demand certain measures of self-gov. and a certain voice in the gov.; the Huguenot settlement which followed the revoca-tion of the Edict of Nantes contribut-ing largely to this end. The pop. con-tinued to increase, and for a period during the 18th century the Dutch were ruled well and wisely by the governor, Ryk Tulbagh, but the spread of the political hatred of Holland to S.

predominant | Africa contributed largely to the ony, they lack | internal dissensions of the country. real system of self-gov. was No granted the colony, the trouble with the natives increased, and although the colonists spread themselves out almost all over the present boundaries of the colonies, the troubles did not of the colonies, the troubles and not cease. The decay of the Dutch E. India Co., helped by the dissensions of the colonists, brought about the easy conquest of the colony itself by the British during the revolutionary wars. In 1803 the colony already conquered by the British was handed back to the Dutch, but was on the almost immediate renewal of the war

and ten years later Vasco da Gama British took over Cape Colony in 1815 salled round it and reached India no real changes were made in the gov. for some very considerable time. The Secretary of State issued laws for the colonies by means of a series of proclamations, and the gov. of the colony up to 1834 was in no wise representative. In the year 1834 Cape Colony was made into a crown colony, but the members of the legislature, as was usual at this time, were nominees of the crown. During the period which followed there were continual dissensions between the original Dutch settlers and the new British settlers, who gradually began to in-troduce their own system and their own manners and customs into the colony. The Dutch complained of the colony. The Duten complained of the excessive quit rents which they had to pay. Another grievance was the abolition of slave labour, for which inadequate compensation was given, and finally the Dutch, who were the chief complainants, determined to trek beyond the confines of the estab. power of Britain. In 1836 the Great Trek took place, a trek which finally resulted in the setting up of Great Trek took place, a trek which inally resulted in the setting up of the republics of the Transvaal and the Orange Free State. The colonists in 1854 were granted a first measure of self-gov., a legislature elected by the inhab, under certain conditions being set up. This did not mean the immediate setting up of regressible immediate setting up of responsible gov., but this latter measure followed eighteen years later in the year 1872. The gov. of the colony has progressed on these lines since that time. Dutch language has been recognised both in and out of parliament. The franchise has been altered and a Re-distribution Bill has been passed, and under the system the colony has on the whole prospered. Dating from 1875 a good system of railways has been set up, and the whole of the colony is now joined up by means of

dissension during the period of the Boer War (1899-1902), and part of the colony—the Dutch-speaking part was seriously affected by that war. On the other hand, the English-speaking colonists supported in arms the mother country, and proved on many did affairs become during 1900-1 and partly elected, the majority of its

now give this name was first sighted by Vasco da Gama on Christmas Day 1497, and it was because of this that the name of Natal was given it. A strip of its coast was purchased from strip of his coast was purchased from the native tribes during the 17th cen-tury by the Dutch E. India Co., but was not extensively settled. This was due to the fact that it was populated by the warlike Bantu tribes. By the beginning of the 19th century the country had been desolated by the attacks of the Zulus, but in spite of this roving bands of Englishmen made settlements there and gathered followings of natives. These men were regarded with great disfavour by the home gov., and the first proposition for the settlement of Natal as a British colony was vetoed by the home gov. in spite of the support of the governor of the Cape, d'Urban. Following on this settlements began to be made by the Dutch farmers, and these settlements were not viewed with great favour by the Zulus, who. although they pretended to be friendly, showed their hostility later by massacring a great number of the white settlers and their followers. Finally, in 1840, the Zulus were defeated by the white settlers led by Pretorius, and the republic of Natal was estab. The republic was essentially democratic, and the democracy fed to frequent disturbances of the peace inside the republic, and to some difficulties with the British authorities at the Cape. In 1842 Durban was occupied by the Eng., and an agreement was reached by which the authority of the queen was to be recognised, and in 1844 Natal was formally annexed by the British. In the meantime, many of the malcontent settlers had crossed the borders was that of a dependency upon Cape Colony. It was governed by a lieutenant-governor, aided by an execu-

the Western, Eastern, and Midland grants were few, and the native tribes systems. The colony suffered con increased rapidly. Between the years siderably from unrest and internal 1850-75 there were frequent troubles with the natives, and these constant struggles probably led to the slow entrance of immigrants into the country. In 1856 Natal was made a separate colony dependent upon the of its own. A set up, and

was one constitution of the colony members being elected. The qualifiwas suspended during that period, cation of the franchise was fixed, and the colony being under martial law remained the same even when the Natal.—The country to which we colony was granted responsible for the Vesco of the colony was granted responsible for the vesco of the colony was granted responsible for the vesco of the colony was granted responsible for the vesco of the colony was granted responsible for the vesco of the colony was granted responsible for the colony was granted respon remained the same even when the colony was granted responsible gov. in 1893. Since that date Zululand has been incorporated with Natal, 1897, and Vryheid and Utrecht, 1903. The legislative council consists of an upper house nominated, with advice of the ministers, by the governor, and a legislative assembly elected according to the franchise of 1856. The colony still has considerable difficulties to face in the question of imported free labour, and as lately as 1906 had to

put down a great Zulu rising.

Orange Free State. — During the early part of the 19th century the ter. now occupied by the Orange Free State was desolated by the native tribes fleeing before the attacks of the Zulus (see BRITISH EMPIRE-Nalal). Commandant Potgieter, who left Cape Colony in the Great Trek, is responsible for the foundation of the colony. In spite of the great difficulties to be faced from the attacks of the Matabele, and in spite of an overwhelming reverse at their hands in 1836, he managed both to make the beginnings of the colony and also to defeat the Matabele and make residence in the ter. less hazardous than previously. A form of Dutch gov. was almost immediately set up, and for some years at any rate the fortunes of the settlers in the Orange River were bound up with the fortunes of the settlers in Natal. In 1845 the ter, was definitely declared to be under British control, although no settled colony was set up and no recognised form of gov. was put into force. The settlers who objected to British rule moved out northward and settled in the Transvaal. In 1848 the Orange River sovereignty was set up by Sir Harry Smith, and was greeted by most of the settlers with enthusiasm, but by and trekked northward. The first a few with dislike, since the Dutch position of Natal under British rule settlers round the neighbourhood of Winburg had grown accustomed to self-gov. After some little resistance, however, they retired to the Transvaal. tive council. The boundaries of the The first Basuto War led to the surren-country were fixed, and the native der of the Orange River sovereignty, question for some time occupied the and the ter, was abandoned by the thoughts of the new rulers. The white Bloemfontein Convention of 1854; it pop. of Natal grew but slowly, immiwas evacuated by British soldiers in was evacuated by British soldiers in

Orange Free State had been set up. Orange rice state had been set up. having a legislature and ruled by a president elected for five years, and eligible for re-election at the end of that term. His power, however, was not great, and the supreme power was in the hands of the Volksraad. Every man between the area of 16 to 60 was Eash to military service, and had to be mounted and armed at his own expense. There grew up rapidly in the state three parties, those in favour of the Free State, those who wished for a return of British gov., and those who desired union with the Transvael Republic. The desire for union with the Transvaal or Cape Colony continued until the presidency of Brand, under whose leadership the power of the years later by an alliance between the of United South Africa.

Transvaal and the Orange Free State | Canada.—The Domin for defensive purposes, and although the Free State showed itself concilia-

Eart, more immigrations from the S. took place and the independence of the territory N. of the Vaal was recognised. A constitution for the republic was drawn up, and the republic was divided into judicial, legisof core was chosen as president, and Pretoria was selected as the seat of cor. The earlier years of the republic were taken up with wars with the natives, and one of the chief difficulties of the republican gov. was the difficulty of the native labour traction. This areation and the wars to the core of th question. This question and the wars with the Zulus led to the annexation of the Transvaal by the British in 1877, and the irreconcilables immedi-

the same year. Within a month of British gov. gave into all the demands the evacuation the military state of the floers, and in 1881 they were of the Boers, and in 1881 the, more granted self-gov. and by the Convention of London of 1884 they received recognition as a republic. The opening up of the gold fields led to the break up of the isolation of the Transvall. The next question of ourstanding moment was the question of the position of the Uitlanders. This led to many grievances and much heart-burning in S. Africa, and feeling against the Boers rose so high at the Cape that, in 1895, Jameson made his famous raid. The raid was unfortunate and did not better the position of the Uitlanders. Finally, position of the Chindress, Finally, in 1899, the position became acute, and ultimately the Transvaal denied the suzerainty of the British crown. War broke out in that year, and in Sept. 1900 the Transvaal was declared annexed. In March 1905 the fear of the Basuto was to a great exclared annexed. In March 1800 the fear of the Basuto was to a great exclared annexed. In March 1800 the fear of the Boers received a grant of representation of the century the Free State protitive gov., and in 1900 they were crossed quietly and rapidly. Very granted responsible gov. They becaused during this came part of United S. Africa in 1910. period until the episode of the Jameson and the premier of the Transval, Paid of 1895. This was followed two Louis Botha, became the first premier

Canada. The Dominion of Canada passed into the hands of the British by the Treaty of Paris of 1763. The the rese state showed tree! conciliation of the description of war (1899), it joined the charation of war (1899), it joined the charation of war (1899), it joined the character is an indicate the character is former title. Orange Free the character is former title, Orange Free the character of the Heights of Abraham, and the decision virtually made by the character is former title, Orange Free that battle was confirmed by the treaty which ended the Seven Years' that battle was confirmed by the treaty which ended the Seven Years' war. The life of Wolfe had not been trader its former title, Orange Free the care to a victorious end with the former to a victorious end with the came to a victorious end with the former to a victorious end with the came to a victorious end with the former to a victorious end w under its former title, Orange Free spent in vain, and the passing of that The Transvaal.—The establishment of the Dominion of ment of the Transvaal Republic was due to the Commandant Pottciers (IT63, Canada and the dispated lands about the time of the Great Trek. When British sovereignty was proclaimed over the Orange River settle under the ment, more immigrations from the Stook place and the independence wished, but above all they were of the territory N. of the Vaal was recognised. A constitution for the satisfied. During the American Werestall and the independence wished, but above all they were effect in the territory N. of the Vaal was recognised. A constitution for the satisfied. During the American Werestall and the independence wished, but above all they were statisfied. During the American Werestall and the independence wished. satisfied. During the American War they remained loyal, a loyalty which lative, and fiscal divisions. In 1858 was chiefly due to the fact that the Pretorius was chosen as president. Quebec Act of 1774 confirmed their and Pretoria was selected as the seat right of worship in their old Catholic faith, and they were also allowed to hold land according to the system of anct. France. Thus pacified they gave no help to the rebels and rather regarded the possible inclusion of Canada with the revolting colonies as a misfortune which was to be avoided at all costs. The settlement of what is now the prov. of New Brunswick took place about this time as a result act, and the irreconculates immediately commenced necrotations which took place about this time as a result ended in open revolt. In 1880 the of the driving of the loyalists from Boers rose exainst the British, and America (U.S.A.). The colonists loyal the British forces were defeated at though they were, however, insisted Laings Nek and at Majuba. Now the upon a recognition of their constitu-

em 'he

tional rights, and they demanded self-|others at this time are to be rebered the names of Lord Strath-Lord Mount Stephen and Sir Macdonald. The latter, after

of which had a representative as-sembly. During the war with the U.S. both provs. remained loyal and helped to repel the invasions of the Americans. But following on the war we find a state of affairs which broods but ill for the mother country. The colonists were discontented and aggressive; their discontent showed itself in the rebellions of Papineau and Mackenzie, both of which were futile. But the opening of the reign of Queen Victoria did not give prospect of an immediate relief of the situation. Bloodshed and discontent were rife; something must be done which would help in the settlement of Canada. Lord Durham, who was sent out to investi-

party for some considerable time held the balance of power, and the rioting at Montreal in 1849 led to the removal of the legislature first to Toronto and Quebec alternately, and finally to Ottawa. For some time there was a considerable movement in favour of union with the U.S., but a reciprocity treaty with U.S.A. in 1854 put an end to this movement. After many difficulties and many deadlocks between the great political parties, the part of the country, and although the British North America Act was aboriginal tribes of Australia may passed by the British parliame. (a) 1867, and the Dominion of Ca consisting of Upper and Lower Ca-New Brunswick, and Nova S came into being. Prince Edwa:

and Newfoundland dropped o the scheme at the last moment. There were many reasons for this federation, the chief perhaps being that the fear of American aggression made the colonists feel that united action would safeguard the interests of them all. The new additions were of great value to the colonists of Upper and Lower Canada, and the federation went far to establish a really strong British possession in N. America. Since that time, in face of many difficulties, the Dominion has gone on incorporating new provs. and stretching her boundaries to the N. and to the W. The Hudson Bay Ter. was incorporated. British Columbia joined the Dominion, and step by step the whole of the present ter. of the Dominion was incorporated. Between the years 1881-85, in

into an upper and a lower prov., both leading the Conservative party in Canada successfully for many years, died in 1891. He had faced many critical movements, but he had been true to his policy of faith in Canada and the B. E. His death broke up the Conservative party, and in 1896 Sir Wilfred Laurier and the Liberals They rewere returned to power. mained in office until 1911, when their policy of reciprocity was defeated and the Conservatives under Mr. Borden were returned. During the crisis of the S. African War the Canadians showed their loyalty and sympathy, and the deeds of valour of the Canadian contingents raised Canada to the position of one of the leading forces in the B. E.

was the last be colonised of European. an This was probably due not so much to the fact that Australia was unknown, as to the fact that its appearance was not at all attractive to the European colonist; the parts of Australia which would attract the settler being the S. and S.E. parts. and these did not become known for some very considerable time after the northern shores of the continent had been discovered. The Malayans never had any great desire to settle in that

ere in some respects of any of the aboriginal tribes. They were entirely a hunting race, they had not developed on the agricultural side at all, they depended for a meagre existence upon the re-sults of their hunting and upon the natural products of the land. But at the same time, they had developed a system highly satisfactory to themselves by which they guarded against the failure of supplies and made each man responsible for a certain amount of supplies. They developed also a highly graduated language, to which considerable grammar attached itself. Altogether apart from their entire lack of knowledge of agricul-ture they had developed as far as their necessity required. The first settlements by white men seem to have been made about the middle of spite of opposition in the face of the the 16th century, so that probably ndsof years these aboriginal

occupied the whole of the Curiously, the somewhat

illogical ideas of geographers of the was made until Lieutenant James period had postulated the existence Cook was ordered on returning from of another continent, a continent that the island of Tahiti to attempt to was to readjust the balance of the known world, and explorers were continually looking out for the land which they felt must exist. The rivalry of the Spaniards and the Portuguese also did not tend to the rapid discovery of Australia, since by the agreement which divided the new discoveries between them, the eastern part of Australia would be the possession of The Portuguese were constantly sending out exploring parties to discover this unknown world, but the Spaniards equally from their position of the western coast of S. America sent out their expeditions also. Some of these explorers actually sailed within sight of the coasts of Australia, but failed to recognise the existence of the new continent; but it was in the faith established by the explorers of this period that the continent of Australia existed in the theories of the geographers for the following two centuries. Following on the explorations by the Spaniards and Portuguese came the explorations by the Dutch. Whilst the Spaniards believed the line of the Australian coast to be a line of islands, the Dutch came rapidly to the conclusion that it was solid land. The war which followed between Dutch and Spaniards gave practically the whole of the Portuguese possessions in the E. Indies into the hands of the Dutch, since the Spaniards had annexed Portugal. From the E. Indian Islands the Dutch sent out many expeditions, expeditions which failed only because their commanders did not fully realise the significance of the discoveries which they had actually made. The journey from the Cape of Good Hope to their possessions often led them to the western coast of Australia, and gradually the existence of a New Holland sprang into being. It the régime of the governor, Under Van Diemen, many discoveries were made and many expeditions were sent out. The chief of all these expeditions was that led by the explorer Tasman, which led to the accurate charting of the northern and western coasts of Australia, and to the discovery of Van Diemen's Land (Tasmania) and Zealand. Even now the full significance of the discoveries was not grasped, and with the death of Van Diemen and Tasmen, exploration on a large scale dies out for nearly a century. The part played by Englishcentury. The part pinyed by Digitaline men in the exploration of the early days was small. Dampier was the only Englishman to bring back any report of Australia, and his report was so bad that no further attempt

discover the unknown continent. did so; proved that New Zealand was only a couple of Islands, and then passed on to explore Tasman's Land. He failed in this endeavour, but he discovered that part of Australia which is now known as New South But the importance of this Wales. discovery was not the report of Cook, nor the discovery of the new land, but the report which one Joseph Banks, a scientist, made, a man who was to rise to great importance in later days. He reported upon the fertility and succulence of the land in the immediate vicinity of Botany Bay. It was by means of his reports that Australia came into popular view as a possible settlement for Eng-The gov. were not lish colonists. too anxious to retain Australia, the people were not too anxious to go out there to develop it, but through all the early vicissitudes of the cabinet, Banks stood by as its very good friend. The early gov. of Australia, it is no exaggeration to say, is the gov. of Joseph Banks, and he alone stood between the gov. and decided ∆ustralia when they abandon it and persuaded them not The first colonial project, as far as New South Wales was concerned, was for the settlement there of a number of the loyalists of America who had been turned out owing to the success of the American colonists. They finally settled elsewhere, but during the negotiations for settlement in New South Wales it had been decided that, should they settle there, they should be protected by the British, and should also employ convicts from Britain to supply their labour. The loyalists, as has been already mentioned, settled elsewhere, but the first settlement in New South Wales was a settlement of convicts.
The first British governor of New
South Wales was Captain Arthur
Philips, R.N., who had an arduous
task to face, but was admirably fitted The first colonists for such a task. were entirely composed of convicts, and it was with men such as these that Philips had to develop the ter. reported by Banks as fertile and easily developed. This success, as may be imagined, was not great; amongst the convicts there were none with pretensions to skill in agriculture, and above all, the land reported by Banks as so fertile turned out to be just the opposite. Still, in spite of difficulties some progress was made, some settlements were founded, and the town of Sydney began to be built. The colony, however, remained for some conthe whole settlement was placed on short rations. The difficulty of main-taining discipline was also a huge problem, and the mixture of the crimes for which the convicts were exported led to even greater diffi-culties. The greatest of all difficulties at the beginning, however, proved itself in the convict guards. Enlisted from men who were more or less blackguards, officered by men who regarded Australia as a purely financial speculation, they speedily obtained overwhelming authority, exploited the colonists to the best of their ability, and mutinied when the offences of which they had been guilty brought down the censure of their superiors. Their friends at home supported them; they hoodwinked or overpowered every governor who was sent out for twenty years, and they went far to prevent any real success attending the efforts of the colonists. During this period, however, the coasts of Australia and Tasmania were explored. The fallacy as to Tasmania being part of the mainland was exploded, and developments in the number of convict settlements resulted from the new discoveries. The names which are most famous as far as this work is concerned are those of Bass and Flinders. Many of the settlements made were, however, unsuitable, and the settlers soon left them in disgust. The founder of The founder of Australia's greatest industry was one John McArthur. He experimented with the Spanish merino sheep, found the country admirably suited for the rearing of such animals, and pro-ceeded to make this sheep industry the essential industry of Australia. He took the part of the convict guards against the governor, Bligh, and had him imprisoned by the mutineers for two years, during which time the convict guards were the sole rulers of the colony. This mutiny brought matters to a head in Australla, the home gov. adopted a fresh policy, and the governors appointed in future were not sailors but soldiers. The new policy also was a more reasonable one. Australia was no longer to be regarded as a huge gaol. The convicts sent out there might speedily by good conduct earn their release and become property-owning citizens themselves, but the policy of emancipation was fairly sure to lead to trouble since military officers still formed the backbone of what society there was. Hence when Macquarie, the governor, an out-and-out emancipist, began to carry his policy to extreme limits, the officials showed

siderable time far from being self-jopenly their resentment. The emancisupporting, supplies were imported pated convicts under the governor-from China and S. Africa, and often ship of Macquarie began to build up a new society, and whereas many results were good, on the other hand many of the attempts were failures. In the meantime the exploration of Australia went on apace, and especially under the governorship of Brisbane was the colony developed. The next governor, Darling, was given great powers, and the colony was remodelled, being now made into a colony inhabited by freemen to whom the convicts were sent as servants. But Darling was opposed to the policy of emancipation, and the cry for real liberty in the colony was soon so great that Darling was recalled in 1831. The policy of emancipation was continued, the constant stream of immigrants from England helped on the policy, and the emancipated convicts were soon, by their good behaviour, able to wear down the stigma of their Tasmania was made into the real penal settlement, and this quietened down into an orderly and disciplined country under the governorship of the somewhat autocratic governor Arthur. With the development of New South Wales went also the development of other parts of Australia. The Fr. had long desired to make settlements on the continent, and the British gov. had to hasten in order to prevent their doing so. The western parts of Australia were occupied between 1820-30. and the gov. adopted in part the ideas of James Peel. They advertised for settlers, and to each of these settlers was to be given forty acres of land for every £3 or £3 worth of goods that the settlers took out with them. The rush of immigrants to Australia was in proportion to the cheapness of the land, but the policy of land giving was bad, and the smaller settlers quickly found themselves with pro-perty miles from any town and of bad quality, whilst the larger landowners, given the first chance, had appropriated the land in the vicinity of the towns and of the best quality. Many experiments were tried, and another great problem which began now to face the white pop. of Australia was the lack of servants, and hence the necessity for an increased immigration which would supply that need. The experiments tried on this occasion were not worthy of success, and further, did not succeed. These experiments in land and in the servant question had been carried out respec tively in Western and Southern Australia. But now under the able governorship of Bourke and Gipps in New South Wales that colony was beginning to demand that it should

be given self-gov., and that England | velopment of hithertounknown lands. should cease to send convicts to it. The transportation of convicts to the mainland of Australia ceased in 1840, and the convicts were replaced by means of a system of assisted immigrations. In the meantime, in spite of in a commonwealth, an object which a considerable opposition. Port Philip was brought to a successful issue at had been estab., and a year later came the establishment of the town of Melbourne. By 1842 New South Wales had developed to such an extent that she was granted a constitution, and a council of whom two-thirds were to be elected by certain specifically qualiduestion was naturally the greatest question which came before this council, and this led to many quarrels. The next question which agitated New South Wales was the attempt of the home gov. to commence again sending convicts to the colony. The attempt was resented, the convicts were not allowed to land, and the colonists definitely decided that in future no convicts would be allowed to be transported to Australia. Following on this came the freeing of Tasmania from the convicts which had previously been sent to it, Tasmania having, in fact, been regarded as the penal settlement even of Australia. In 1851 the colonies which were in existence were: New South Wales, Tasmania, S. Australia, and Victoria, the latter having but recently objected to the union with New South Wales, and had been successful in borrowed for the purpose being a obtaining separation. The gold rushes heavy burden to the population, but which commenced in 1848 were not the benefits which accrued being a source of undiluted benefit to the enormous. Most of the railways con-Australian gov. In many cases the diggers were quiet and peaceable, but amongst them also there were men of little or no principle, and also men of advanced political principles! who, having been unsuccessful in carrying out their ideas in their own country, attempted to do so in Australia. Frequent riots took place with which in many cases the gov. was not and the same ideals as themselves, capable of dealing, the most famous They refuse to admit on equal terms of these being the Eureka stockade Asiatics, especially Japanese and

Since the grant of self-government to the Australian colonies many grave problems have had to be faced and solved. The tendency set in rapidly towards the closer union of the colonies was brought to a successian issue ac the beginning of the present century. The colonies, however, had also the problems of the land question, education, railways, and immigration to settle. The land question, which was to Australia the most important, the base cettled when it seemed to have been settled when it was upset by the gold rushes, but the Torrens Act did much to settle disputed claims to land. The question of education provoked serious contro-versy, but was finally settled by means of a compulsory state education measure which is strictly undenominational. Under certain conditions ministers of the gospel are allowed to instruct the children of their ool hours or in t of school hours no statepaid teacher is allowed to teach denominational Scripture. In the matter of railways it was only natural that in order that the country should be fully developed the railway system would have to be perfected. The various states began after 1870 to develop the railways, and since that date nearly 20,000 m. of railways have been constructed, the money borrowed for the purpose being a heavy burden to the population, but verge towards the capital. The question of immigration and a 'white Australia ' is one of the most difficult problems which the Australians and the B. E. have to face. The Australians are quite open on the question. They say that they only desire white immigrants, people who have to a very great extent the same ideas and the same ideals as themselves. They refuse to admit on equal terms or these being the Lareka stockate is statics, especially aphanese and episode. The gold rushes were, how- Chinese, who, as they point out, ever, on the whole, of considerable have a totally different system of benefit to practically all the Aust-civilisation. That this attitude tralian colonies, which benefited by threatens without a doubt the impact of the control of the contr trainar colonies, which hereaced by interacting without a doubt the increased trade and wealth which is these rushes brought about. In 1855 openly recognised, but on the other S. Australia received a constitution, and in 1859 we get the establishment dustralian point of view. They are of Queensland. Exploration had, in themselves prepared to admit that the received are the contractions are the contractions are the contractions. the meantime, continued to a great ex- their exclusion tests are to a great tent, and the hitherto unknown parts extent a sham and a delusion, but of Australia were opened up. The the Yellow Question is a far more journey of Burke and Wills, 1860-1, realistic problem to Australia than whilst unfortunate in that the extense and vague the general much to open out the colonies, since and vague theorisations of the specurelief and search parties led to the delative mind.

of the Maoris, the natives whom the first European settlers found in possession of the islands, is enshrouded in mystery, and cannot at this late date be fathomed. If we judge the Maoris by the legends which they tell. we come to the conclusion that they are not aboriginal, but themselves merely settlers driven from their homes southward. But the legends which account for their existence in New Zealand account also for the existence of the native tribes in other of the neighbouring islands, and the most we can safely say is that they are kindred with the races of the Polynesian Archipelago. Their institutions, customs, and manners were primitive in the extreme, their religion simple, and they themselves essentially a religious race. The date of the settlement of New Zealand by Maoris has been variously given, and cannot with any amount of certainty be even approximately stated. It is safe, however, to state that the islands were visited at one time or another by the Spanish, French, and Dutch sailors of the 16th century, and at the beginning of the 17th century New Zealand is for the first time marked on a map. The first name that we can accurately connect with New Zealand is that of the famous Dutch explorer Tasman, who visited it about 1641. The further development of the island did not take place until the arrival there of Captain Cook just after the middle of the 18th century. He by his explorations opened up the country, made it better known to the white man, left several valuable acquisitions to the country, such as potatoes, and the pig, and also left behind him natives more inclined to quarrel than previously. The settlement of New Zealand by the white man did not begin until the opening of the 19th century. The early days of the settlement of the white man cannot be described in colours dark enough to do them justice. The native, his passions roused by the spirits he was able to obtain, controlled only by men to whom law meant nothing, degenerated rapidly into a hanger-on to the fringe of civilisation, and became rapidly worse and worse. Such a state of things could not be allowed to endure for long. With the coming of the for long. With the coming of the missionaries about 1814 things began to change for the better. The missionaries saw and urged the need for annexation by Great Britain, but annexation did not take place. The lawlessness of the South Island was curbed but not checked. The French made several attempts to annex the island for themselves, their final effort being frustrated by Captain Hobson,

British

New Zealand .- The early history who persuaded the native chieftains to petition for annexation, a petition which was finally heard in 1840. In the following year the islands were made into a separate colony, and Captain Hobson was appointed the first governor. The early days of the colony tell only a story of continual struggles over the land question. The natives refused to part with much of the land which the New Zealand Company claimed as having been purchased. The natives were willing purchased. The natives were wining to abide by the decisions of the com-missioner sent out by the home government, but the company was not: the result was the first outbreak of war between the Maoris and the settlers, a war which threatened the settlers with extermination but which fortunately was brought to a satis-factory termination. The Otago and Canterbury settlements brought them many hard-working with settlers; the land under the administration of these settlers flourished. It was found that the country was eminently suited to sheep raising, and soon wool became its greatest export. The colony was now in a flourishing condition, and in 1852 it was raised from a crown colony to a self-govern-ing one. The constitution granted both a system of provincial and central government. But it was some time before affairs were conducive to the proper working of the constitu-tion, and the departure of the governor, Sir G. Grey, marked also the beginning of trouble with the natives. Those of the natives who had still the ideals of their nation at heart were grieved by the manner in which they were treated by the settlers, and the great 'King war' broke out, only to be settled by the bloodiest of campaigns, in which the Maoris showed very considerable courage. The native question was, however, settled, and the Maoris were given representation in the House of Representatives. With the ending of the native question the colony has progressed remarkably. It is the most British of all colonies, enlightened in its progressiveness, and far to the fore in matters of social legislation. Its political parties have the same names as the two great parties of this country, but the party names are very misleading. This country has granted the franchise to the women, has a fine old age pension system, local option and prohibition, and a system of compulsory arbitration. In all social work it is indeed well to the front. The Maoris are now contented but dwindling in numbers. The population of the country is roughly 1,000,000. British Empire League was founded

in 1895, primarily with the object of

fostering trade between the British bark, resin, balsam. wax, fibre, oil, Isles, the colonies, and India. It aims nuts. Food plants abound, as the out the empire uniformity in the laws dealing with patents, copyrights, legitimacy, etc.; at holding conferences from time to time (to deal parrots. kingfishers, with these and cognate questions, herons, and divers are included.

where the R. Corentyn separates calchuracteristics are almost identical. Am On the Atlantic soil are alluvial de-Cor posits generally below sea-level, and qui are shifting, some fixed through the roots of mangrove trees. On the alluvial areas the only cultivation of soil is found. The area beyond is formed chiefly of detritus caused by the passing of the earlier mt. masses. The central area is a plateau of 3000 or 3500 ft. This is covered with a dense forest containing a wealth of timber, though it has suffered little at the lumberer's hands, as few have advanced sufficiently into the country. The dist, is well watered by streams which enter the Atlantic. The large quantities of sediment brought down to their mouths effectually hinder any commercial value they might have, though their use in irrigation by the Bay of Honduras, in the Caribisunquestionable. Moreover they are bean Sea, and borders in other interrupted here and there by falls are left and rapids. Small vessels can navigate them as far as the first rapids. The peninsula Yucatan emgate them as far as the first rapids. The peninsula Yucatan emgate them as far as the first rapids. This length of navigation varies in its area is 7562 sq. m., and its populificant cases between 10 and 150 m. 31,471, of whom 16,000 are of the Artificial canals and various cross channels afford the principal means of communication. The climate is hot the N.W. and S. respectively are the and moist and uniform. During the rivs, Rio Hondo and Sarstoon, forming larger nate of the year the heat, natural boundaries. The hielest nature have, though their use in irrigation

at protecting the trade routes by insweet potato, arrowroot, tomato, creased co-operation of the armies guava, cherry, avogato, bread-fruit, and navies of the empire: cheapening melon, banana, pine-apple, yam, rice, and rendering more effectual all com- and maize. Hundreds of species of munication by steam, post, telegraph, creeper are found in great plenty, cable, etc.; at establishing through. Among animal life the birds present the most striking features: vultures, eagles, owls, nightjars, humming-birds, bell-birds, trogons, puff-birds, trummeters. so prolific as one would imagine from the wildness of the country are the animals, though specimens of jaguar, tiger - cat. peccary, tapir, sloth, armadillo, ant-eater, agouti, oposwhere the R. Corentyn separates sun, raccoon, porcupine, monkey, them; by Brazil on the S.; and by and manate abound. The native Venezuela on the W. The country Indians lead a natural life in the has a coast-line of 320 m., and is situated between the Orinoco and the sq. m., but definite boundaries are Amazons in S. America, Adjacent to B. G. are Venezuelan, Dutch, French, Jar m., but definite boundaries are B. G. are Venezuelan, Dutch, French, Jar m., but definite boundaries are and Brazilian Guiana. In all British, N. ille the repench, and Dutch Guiana the physical definite parameter aristics are almost identical than the square aristics are almost identical. sum, raccoon, porcupine, monkey, rs are Esseicf inplosus generally below sea acres, and the superstance of the superstan worthy occupations. Exports include sugar, rum, cocoa-muts, timber, gums, and gold. The colony is divided into three provs., Berbiec. Demerara, and Essequibo. The ports are Georgetown, the cap., and New Amsterdam. A governor and two legislative councils control the administration of its affairs. One railway connects Georgetown with Mahaica (21 m.), and telegraphic communication is estab.

pop. in 1911 was 296,000, which does not include natives in the less frequented parts of the country. British Honduras, known also as

Belize, a British colony in Central America. It is bounded on the E. by the Bay of Honduras, in the Cariblarger part of the year the heat, natural bounderies. The highest part averaging 84° F., is lessened by sea of the land is 4000 ft. above sea-level breezes. The rainfall is heavy and in the Cockscomb Mts. Elsewhere, averages 90 in annually. Naturally, especially along the coast, the soil is the flora of the dist, is luxuriant and low and marshy. The chief exports abnormal. The vast numbers of trees are mahogany and logwood, sugar, shipbuild-coffee, cotton, sarsaparilla, bananas, ing, and plantains, and india-rubber. The 3 various early settlers met with vigorous opare gum, position from the Spaniards, though

their occupation after a defeat in members of the medical profession 1798 was tolerated more peaceably. It was first started in 1840 as the Belize has been a British colony P since 1862, and it was governed by a lieutenant-general who now ranks as governor. The cap. is Belize, and is a centre of the trade of Central America. Pop. 6600.

British India, see INDIA. British India Steam Navigation Company was started in 1556, originally under the name of the Calcutta and Burma Steam Navigation Co., for the purpose of conducting trade along the coast of India. During the Indian Mutiny, 1857, it did great service to the British gov. by conveying troops from Ceylon to Calcutta, and again offered its services in 1867 during the Abyssinian campaign. Its present name was adopted in 1562. Trade with the East received a great impetus in 1869 with the opening of the Suez Canal. The s.s. India of this line was the first steamer to arrive in London from India via the Canal. The trade of this company is now very

aims at providing a central bureau of information on every kind or branch of practical social service, and publishes a valuable monthly Social! President (1912) Earl of Progress. Meath; Hon sec. a. R. A. Mard. Present office address, Hon. sec. A. Kenyon May-Tavistock Square, London, W.C.

off the coast of Cornwall; and the off the coast of Column, Isle of Wight and the Channel Is., in the English Channel. The

all congresses, conferences, meetings the number of students and readers of local societies, etc., of interest to had greatly increased, and it was felt

f Dr. n and has since then changed its name more than once. In 1898, Mr. Ernest Hart. who had been editor since 1866, was succeeded by Dr. Dawson Williams. It is pub. weekly (6d.) from the Associa-

tion's office, 429 Strand, London, W.C. British Museum, originated with the grant of £20,000, voted by parliament in 1753, for the purchase of Sir Hans Sloane's collection of rare books. manuscripts, curiosities, and works of art, which had cost him £50,000. Montague House was bought for £10.250 as a place for their reception To the Sloane collection was added the Harleian and Cottonian libraries. the former having belonged to Robert Harley, Earl of Oxford, and the latter to Sir Robert Cotton, whose grand-sons bequeathed it to the nation in 1700. In 1757, George II. added to this collection the books collected by The trade of this company is now very this collection the books collected by extensive, and their vessels visit the the kings of England from the time ports of India, Burma, the Straits of Henry VII., including the libraries Settlements, the Philippines, the of Cranmer and Casaubon. In 1759 Duch East Indies, Queensland, and Montague House was formally opened since 1872, the E. coast of Africa. as the B. M. The museum was rapidly The London offices are at 9 Throg-increased by gifts, bequests, and morton Avenue, E.C.

British Institute of Social Service, \$\frac{5}{2}\text{400 for the purchase of Sir William orranised July 1904, much on the Hamilton's collection of vases, antiorganised July 1904, much on the Hamilton's collection of vases, anti-lines of the American Institute and quities, and drawings; in 1799 the the Paris Musée Social (1889). It Rev. Clayton Mordaunt Cracherode bequeathed his library of books and prints; George III. made a gift to the nation of the Egyptian marbles taken from Alexandria; and between 1805 and 1818 the state bought the Townley marbles, the Lansdowne manu-scripts, the Phigalian marbles, the Elgin marbles, and the Burney British Isles, an archipelago of library. The accommodation in the W. coast of the continent of Montague House was no longer sufficurope, from which it is divided by cient, and preparations for a new the North Sea, the Straits of Dover, building were placed, in 1823, in the and the English Channel. It combands of Sir Robert Smirke. This building were placed, in 1823, in the hands of Sir Robert Smirke. This and the English Channel. It com- hands of Sir Robert Smirke. The prises Great Britain, made up of new building, the present B. M., was England, Scotland, and Wales; Ire- completed in 1847. It faces S. on land; the Orkney and Shetland Is., to Great Russel Street, the E. and W. to the N. of Scotland; the Hebrides, wings being joined by a most impresoff the W. coast of Scotland; the Isle sive façade of columns, 370 ft. in of Man, in the Irish Sea; the Scilly Is., height, after the Ionic order. To the sive façade of columns, 370 ft. in height, after the Ionic order. To the E. and W. are semi-detached residences for the most important officers the S. in the English Channel. The of the museum. King George III.'s total number of islands is about 5000. library, presented by George IV., Area 121,390 sq. m. Pop. 45,522,000. occupied the castern wing in 1823. See under its various divisions. Antonio Panizzi, keeper of the dept. British Medical Journal is the of Printed Books, procured for the official organ of the British Medical museum the bequest of the Grenville Association. It is a contemporary and library, belonging to the Rt. Hon. trustworthy record of the procress Thomas Grenville, of 20,240 vols., that is being made in every branch of I which had cost about £31,090. With medical science, and issues reports of the increase of books in the library, direction of Sir Robert Smirke, and completed and opened in 1857. It was built into the interior of the was built into the interior of the quadrangle, the total cost of construction being £150,000. It is a circular building, 140 ft. in diameter, the height of the dome being 106 ft. There are spacious desks to accommodate 300 readers, which are arranged in rows converging to the centre, where the catalogues are shelved. The bookcases around the the Duke of Bedford. It is expected reading-room stand 8 ft. high. They that the new buildings to be erected on are made of galvanised iron, lined this site will be completed shortly. The are made of galvanised iron, lined thissite will be completed shortly. The with learther, and books are placed on B. M. is divided into different depts., both sides of the cases, separated by an iron partition. There was originally about 25 m. of book-shelves, which could hold 1,000,000 vols. of octavo size; but now that the sliding book-quities; (e) Gk. and Rom. Antiquities; (e) Gk. and Medals; (g) cases, running forward out of the fixed ones, have been adopted, it is been increased to 46 m. There reading-room. In 1880 it was found are 20,000 vols. in the reading-room, that the manuscript catalogue had has been increased to 46 m. There reading-room. In 1880 it was found are 20,000 vols. in the reading-room, that the manuscript catalogue had to which the readers have free access. Increased to an unwieldy number of The total number of vols. now in the vols., and therefore the plan was library is nearly 3,000,000. Tickets of adopted in 1881, under the superadmission to the reading-room may vision of Dr. Richard Garnet, of be obtained on application to the printing the title slips. Various cataprin. librarian through a letter of religious dealing with special subjects commendation by a householder. The have been printed, of which the most room will be shown to any members valuable is that of old English books of the public if permission is asked in prior to 1641. the Central Hall. It was soon felt (b) The manuscripts are accessible necessary to build a separate library to students on application. A great for the works on natural history, and number of illuminated manuscripts, in 1873 buildings were commenced in early documents of special interest, Cromwell Road, Kensington, on the and autographs of great men and site of the International Exhibition women are permanently exhibited in of 1862. The Natural History Museum show cases; special exhibitions are was completed in 1881, at a total cost also arranged at various times. This of £400,000. It is a terra-cotta building, designed by Alfred Waterhouse, in an early Romanesque style. It contains books on botany, zoology, geology, and mineralogy, besides stuffed animals and an invaluable collection of unique specimens. This Natural History Dept. of the B. M. has been greatly enriched from time has been greatly enriched from time to time by bequests and purchases, kept in the White wing, already menthe chief of which may here be mentioned. The Botanical Dept. contains bequeathed his collection to the herbarium of Sir Hans Sloane of susceptions of the herbarium of Sir Joseph Banks; chases have been made and further and the herbarium of Sir Joseph Banks; chases have been made and further and the herbarium of Sir Joseph Banks; chases have been made and further and the herbarium of Sir Joseph Banks; chases have been made and further and the herbarium of Sir Joseph Banks; chases have been made and further and the strictly and danations given until a unique col-

necessary that a new reading-room gallery on the N. side, the prin. colshould be built. The present reading-lections being those of Dr. Mantell, room was designed by Panizi, a and the tertiary fossils collected by grant was voted for it by parliament Dr. Falconer in India. The sum of in 1854, it was carried out under the \$45,000 accrued in 1879, which had been bequeathed by William White (d. 1823). With this sum a new wing was added to the B. M. at Blooms-bury, jutting out from the S.E. angle. This wing was opened in 1882, and contained pottery, glass, prints, and drawings. The latest addition to the museum was begun during the chancellorship of Sir William Harcourt (1392-94), when the ground at the back of the museum was bought from

dept. contains two original copies of the Magna Charta, the earliest known It copies of the Odyssey and the Iliad, the Codex Alexandrinus (i.e. a manuscript of the Bible written in uncial Greek before the close of the 5th century), and countless other priceless manuscripts of equal interest.

and the herbarium of British and donations given, until a unique col-foreign mosses, collected by William lection has been formed of drawings, Wilson. In the Zoological Dept. is etchings, and engravings, and also Wilson. In the Zoological Dept. is
Gould's famous collection of humprints from the works of well-known
ming-birds, Wallace's collection, masters. There are examples of the
formed in the Eastern Archipelago, work of Raphael, Michael Angelo,
and birds Leonardo da Vinci, Rembrandt,
and cases Hogarth, etc., and the English,
upper Italian, German, Dutch, Flemish, and Japanese schools are all represented. A catalogue was issued in 1887.

(d) Among the Oriental antiquities, the most notable are the Egyptian monuments (2000 B.C.-640 A.D.), the Rosetta Stone, which affords the key to hieroglyphics, the Assyrian sculp-tures, excavated at Nimrud from the palace of Assur-nasir-pal (885-860 B.C.), at Khorsabad. Koyunjik, and elsewhere by Layard, Rassam, Loftus, and Sir H. C. Rawlinson.

(c) In this dept. are the beautiful Elgin marbles, which originally decorated the Parthenon at Athens, the sculptures of the Mausoleum at Halicarnassus (excavated 1857), sculptural remains from the anct. cities in Lycia (obtained by Sir C. Fellowes. 1842-6), and some of the finest pieces of statuary, representative of Gk. and Rom. art, to be found in the world. There is also a fine collection of antique vases, bronzes, gems. gold

October official guides conducted parties to the various depts, at certain fixed times. During these six months it was estimated that over 9000 persons attended these tours. experiment having proved successful, these guides were estab, permanently in Dec. 1911. During 1911 the total number of visitors was 723,571, 280,527 of these being for purposes of study; at the Natural History Museum the number was 435,684, of which 21,979 were students.

Guinea, British New NEM.

GUINEA.

British North Borneo. see BORNEO. British Science Guild, founded 1904. with the aim of convincing all men of the necessity for applying the methods of science to all branches of human endeavour.' The guild wishes to bring before the gov.'s notice the scientific aspects of all questions concerning the nation's welfare. Its aim is to further scientific education in every possible way, and the application of scientific principles to all branches of life and work. Hon. sees. Sir Alexander Pedler and F. Mollwo Perkin, 1912. Office: 199 Piccadilly, W.

LAND, BECHUANALAND, CAPE COLONY, NATAL, ORANGE FREE STATE, RHO-DESIA, TRANSVAAL

DESIA,

British South Africa Company, The. obtained a royal charter in 1889, through the efforts of Cecil Rhodes. It protects Rhodesia, and is authorised to further commerce, and to develop mineral and other resources of the dist. over an area exceeding 700,000 sq. m. Dr. Jameson was administrator of the company's territories until the Transvaal raid, 1895-6, being succeeded by Earl Grey. Sir W. H. Milton is the present administra-tor, 1912. The Duke of Abercorn is president of the Board of Directors. Manager, H. Wilson Fox; sec., D. E. Brodie; assistant-sec. A. P. Millar, Brodie; assistant-sec., A. P. Millar 1912. Office, 2 London Wall Build ings, E.C. Rhodesia Emigration and Information Office, 138 Strand, W.C.

Hom. art, to be found in the world. There is also a fine collection of antique vases, bronzes, gems. gold ornaments, etc.

(f) and (g) The coins and medals founded in 1885. It presents a weekly are representative of Gk., Rom., Eng., record of the Free Churches, and disforcign, mediaval, and modern times; cusses the topics of the day from Among the antiquities is placed the Nonconformist point of view. A Henry Christy's valuable ethno-feature of its pages is 'The Corregraphical collection, bequeathed in spondence of Claudius Clear,' a 1865, the Slode collection and the weekly recovering the collection of the recovery control of the Sonder of the Roman Control of the Roman C graphical collection. bequeathed in spondence of Claudius Clear, a 1×65, the Slade collection, and the gifts of A. W. Franks. The most interesting feature in this dept. are implements of war and articles of domestic use belonging to the Stone and Bronze ages.

In 1911 a new scheme was devised for interesting the public in the content of the museum. From May till optober official guides conducted were and deal principally with those terms and deal principally with them. men, and deal principally with theological and ethical questions.

British West Africa, see GAMBIA, GOLD COAST. NIGERIA. SIERRA LEONE. West Indies, British see

INDIES. British Women's Temperance Association, see TEMPERANCE SOCIETIES.

Britomartis, Cretan goddess (sweet maiden); daughter of Zeus and Carme. Pursued by Minos, she flung herself into the sea, but was saved and made. a goddess by Artemis, with whom she was later identified. Goddess of hunters, said to have invented nets-hence called Dictynna (Gk. & error). Spenser (Faërie Queene) represents Elizabeth under this name.

Briton Ferry, a seaport in Glamor-ganshire, Wales, at the mouth of the R. Neath, 21 m. from the tn. of Neath, to which it acts as port. The docks belong to the Great Western Railway. There are also coal mines, and steel

and iron works. Pop. 6973.

Brittany (Fr. Bretagne), an old prov. in the N.W. of France, forming a peninsula between the Bay of Biscay, the Atlantic Ocean, and the English Channel, and comprising the depts. British South Africa, see BASUTO- of Finistère. Côtes-du-Nord, Ille-et-

Vilaine, Morbihan, férieure. origin, and the Armorican or Breton Briva Curretie of the Romans. their ancient superstitions and traditions. The country is one of the most picturesque in Europe, with its oldworld tns. and anet. druidical monuments. It was conquered by Julius Cæsar in 57-56 B.C., and was known to the Romans as Armorica. It suffered during the 5th and 6th centuries from A.-S. invasions, when its name was changed to Britannia Minor. During the 10th century the country was closely allied with Normandy, it was an independent country governed by its own dukes. In 1169 Henry II. made his son Geoffrey, Duke of Brittany, and he was succeeded by his between the two countries. It was 'illi was discovered in 1885, and confinally incorporated with France by tains many interesting paleolithic Francis I. in 1532. During the French remains. William of Orange landed Revolution it supported the Bour-lat B. in 1688. Pop. 8090. bons. See Menpes' Britlany (New Brixlegg, a village in the Tyrol, York, 1905), and Bell's Picturesque Austria, about 20 m. E.N.E. from Britlany (1906). Francis I. in 1532. During the French Revolution it supported the Bour-bons. See Menpes' Brittany (New

Brittle-stars is the popular name applied to the animals of the class Ophiuroidea among the Echino-derms. They have many points in common with the Asteroidea, or starfishes, but they are more active and muscular, have no anus, the ambulacral groove on the ventral surface is covered, and the arms contain no pro-longation of the viscera. The name refers to the way in which these starshaped creatures can break off an arm; when this is done another quickly grows in its place. They are sometimes known also as sand-stars, from being found on the beach. Typical British species are Ophiura ciliaris, Ophiopholis aculeata, Ophio-

coma nigra, and Ophiothrix fragilis. Britton, John (1771-1857), a topographer and antiquary, born near Chippenham, Wiltshire. In 1801 he co-edited with Brayley the Beauties of Willshire, which proved very popular, and was followed up by the Beauties of England and Wales (1801-15), and the Beauties of Bedfordshire. He also pub. The Calhedral Antiqui-ties of England (14 vols., 1814-35). See his Antohiography (1850), and Papers (1856-7).

Britz, a vil. adjoining Rixdorf, in the prov. of Brandenburg, Prussia;

Brive-la-Gaillarde, cap, of an arron.

Morbihan, and Loire-In- in the dept. of Correze, France, on the The inhab, are of Celtic R. Correze, about 18 m. S.W. of Tulle; language, belonging to the Cymric church of Saint Martin dates from div. of Celtic and allied to Welsh, is the 11th century. Its chief industries spoken. The peasants are a rude, are the manuf, of tin and copper stundy race, obstinately adhering to ware, and candles; there is considerable trade in wine, chestnuts, truffles, and palé de foie gras. It was the bp. of Cardinal Dubois. Pop. 20,000.

Brixen, a tn. in Tyrol, Austria, in the Puster valley, 57 m. S.E. of Munich, on the Brenner Railway. It has a cathedral, an old episcopal palace, and sev. monasteries, and a theological seminary. From 1179 to 1803 the bishop was a prince, the bishopric of B. being one of the states

of the German empire. Pop. 5767.
Brixham, a scaport in the co. of
Devon, England, on the S.W. side of
Torbay, opposite Torquay. It is tany, and he was succeeded by his Torbay, opposite Torquay. It is posthumous son Arthur. Afterwards principally noted for its fisheries, on it became a vassal of France, but broke away about 1338. During the Hundred Years' War it was alternately the ally of England and France, and was frequently a cause of quarrel between the two countries. It was the first two france was alternated with France was alternated with France was alternated for the place, and there are paint works. A cave on Windmill between the two countries. It was firstly increase and contains a first was alternated with France was alternated for the first was alternated with France was alternated for the first was alternated for the firs

> the inhabitants is that of smelting; practically all the silver and copper ores which are found in the mines at the neighbouring tn. of Rattenberg, are smelted at Brixlegg.

> Brixton, a div. in the parish and bor of Lambeth, Surrey. Pop. 75,366. Briza is the name of a genus of Graminese which occur in temperate climates, and of which two species grow in Britain; they are B. Minor and B. Major, quaking-grass and

> maiden's-hair, common in meadows. They are very slight, shaking with the least breath of air, and as pasture they yield little nutriment.

> Brizio (or Brizzi), Francesco (1574-1622), an Italian painter, born at Bologna. He studied under Lodovico Carracci, and was perhaps his best executing some admirable B. was also an engraver of

> pupil, work. some note. Broach, Baroach, or Bharuch, a tn.

of Gujerat, Bombay Presidency, India. It is situated on the N. bank of the Nerbudda, 228 m. by rail N. of Bombay. It was formerly one of the most important ports of Western India, and was famous for its handwoven fabrics. Dutch and English factories were founded in the 17th century; it was captured by the British forces in 1772, yielded to Sindhia in 1783, and recaptured in hospital 42,300. The dist. of B. is a fertile 1901. plain of 1453 sq. m. Pop. c. 290,000. Bro 42,300.

plain of 1453 sq. m. Pop. c. 290,000. Broadmoor, in Sandhurst parish, Broad Arrow, the mark of the S.E. Berkshire, England, a state British gov. stamped on all gov. asylum for criminal lunation. It was stores. Any one defacing this mark built in 1863, and will accommodate is guilty of felony, and any one un-lawfully in possession of goods thus lawfully in possession of goods thus Broads, The, a level dist., chiefly in stamped can be fined 4200 and costs. Norfolk, but also in Suffolk. The

Broadbent, Sir William Henry (1835-1907),

ing at Ower continued his

1879 he was physician to the London interest to naturalists. Fever Hospital. He was in attendance Walter Rve, A Month on the Norfolk on the Duke of Clarence at his death, Broads, 1887; Emerson, On English 1892, and Queen Victoria. Edward Lagoons, 1893; and Dutt, The VII., and George V. were at different Norfolk Broads, 1903.

Broadside, the simultaneous discretization of the simultaneous discretization. explain the unequal distribution of was also president of the British off the rounded turiets and that the Medical Benevolent Fund, 1900, and weight of guns and armour is more proved himself an able lecturer.

1744 to 1754, the year of Pelham's death. It was so called because it admitted every man of parliamentary talent or influence, irrespective of party. Pelham stooped to the most corrupt practices, such as would have disgusted even his predecessor, Walpole, and was prepared to support any one powerful enough to be dangergovernments, believed it could prosper without any at all, but learnt its mistake when the Young Pretender won his crushing victory at Prestonpans (1745), and when it was involved in a useless war with France (1743-48).

Broadhurst, Henry (1840 - 1911), politician, worked in a blacksmith's shop, and was later a stonemason, until, in 1875, he accepted the secretars of the stonemason. taryship of the Labour Representa-tive League. From 1880 to 1892 he sat in parliament, representing in turn Stoke-on-Trent till 1885; Borde-ley till 1886; and Nottingham. For six For six months, 1886, he was Under-Secretary of State for the Home Dept. He did good service on many royal com-missions: reformatory and industrial schools, housing of the working classes, condition of aged poor, etc. In 1885 he collaborated with Sir R. Reid in writing a book on leasehold enfranchisement, having worked hard

There is a Mohammedan for the Leasehold Enfranchisement for sick animals. Pop. Bill. His autobiography was pub. in

700 persons.

B. are shallow lakes, connected by 'dykes' to the rivs. which intersect the country, viz. the rivs. Yare, Bure, with its tributaries the Ant and the 1858 to 1896 he was on the active Thurne, and Waveney. There is staff at St. Mary's Hospital, London. excellent yachting on the shallow At the medical school he was lecturer broads, and the fish and wild-fowl, on physiology, zoology, and com- too, attract many holiday-makers. parative anatomy, and proved an ex-cellent clinical teacher. From 1860 to peculiar to marshy dists. and of great Consult

explain the unequal distribution of charge of the guns on one side of a paralysis, in the form of hemiplegia, ship-of-war. This method was disis still unrefuted, whilst he first sug- carded on the introduction of irongested with authority a separate clad turret-ships in which the great centre for conception of ideation. He advantages are that projectiles glance

evenly distributed.

the name saturcally given to Henry Pelham's ministry, which lasted from E. coast of the Isle of Thanet. Kent, E. coast of the Isle of Thanet. Kent, England, 2 m. by rail N.E. of Ramsgate. There is an orphanage, founded by the wife of Archbishop Tait. Dickens was a frequent visitor, and wrote Bleak House after his residence here. Pop. (1901) 6466.

Broadsword, a sword with a broad, flat blade, which is generally used for cutting, but not stabbing. The nation, inured to vicious formerly a weapon of the Highlanders.

Broadwater, a vil. and par. in Sussex, England, with an acreage of 2735. It is about 12 m. to the W. of Brighton. It is noted for its extensive market gardens, much of its produce being cultivated under glass. In the neighbourhood is an old Rom. camp in a state of good preservation. Broadwood, John (1732-1812), born

in Berwickshire, and walked to London to become a cabinet-maker there. With the Swiss, Burkhard Tschudi (whose daughter he married), he founded the great London pianoforte house (entering into partnership with Tschudi 1769, becoming sole pro-prietor 1783). Sev. generations of Bs. have carried on the business, which still prospers at the present

Broadwood, Rotert George (b. 1862). British soldier: entered army (12th Lancers), 1881; served Dongola expeditionary force, 1896; and

Egyptian War, 1898, being present at very popular. Now the word B. is commander of 2nd Cavalry Brigade. A mounted force under him was ambushed by De Wet at Sanna's Post, a number of men and guns being captured. In 1901 B. captured General A. Cronje, General Wessels, and other prisoners, during operations in the Free State; 1903-4 commanded troops in Natal as colonel; 1904-6 brigadiergeneral, commanding Orange R. Colony dist.; 1906 commanded the troops in S. China; C.B. 1900; major general, and A.D.C. to the king. B. has won the highest distinctions during his military career. He was frequently mentioned in despatches in the Egyptian and S. African wars, among them being: Conchylologia and holds, among other medals, Khedive's medal, three clasps; Queen's medal and six clasps; and Conchylologia and holds, among them being: Conchylologia fossile subapennia, 1812. Pello Slato Fisico del Suolo di Roma, 1820.

King's medal and two clasps.

Broca, Pierre Paul (1824-80), a Fr.
anthropologist, born at Sainte-Foy-lathe Ecole Polytechnique and F de Médicine of Paris. In 1846 came assistant in anatomy

professor of surgical pathology. various times he acted as surgeon to used as a table-vegetable, and comes the im--aris: founded cicty of Pari. *levue* d'Anthre the Ecole d nber

of the I Тο him medical science owes the dis-covery of the seat of speech in what is commonly known as the 'convolution of B. public assistance during the Franco-absolute ruins, in different parts of Prussian War. There is a statue of Scotland, the best known examples Prussian War. There is a statue of Scotland, the best known examples him, executed by Choppin, in the being Mousa and Clickemin in Shet-Ecole de Médicine. His most implied the Carlotte in Lewis, and utherland. The portant publications are: Des Anrrysmes et de leur Traitement, 1851 L'Ethnologie de la France, 1850 Instructions Générales pour les Recherches cherches 11 struction: inic métriques

thropologic, 1 von. 1811-85. Brocade, the name given to a richly decorated fabric, with a slightly raised pattern, often woven with gold, silver, or gilt-silver threads. Oriental tissues, made in Persia and Asia Minor, especially from the 14th to 17th century, are also called Bs. B. was made as early as the 13th century in Italy and Spain. The background was of heavy silk, or of some strong material with a soft silk face, on to which a flowered pattern At a of many colours was woven. later date, about the 16th century,

battles of Atbara and Khartoum. B. applied to any rich material on which served in S. Africa, 1889-1902, as a raised pattern has been wrought. At the South Kensington Museum there is a fine collection of old and modern Bs., which is of great interest to the decorative textile artist. Fine specimens may also be seen at various contine --and at

Brocc.., Listaini Battista (1772-1826), It. naturalist, born at Bassano. After holding the office of professor of botany at Brescia he became in 1809 inspector of mines at Milan. He afterwards left Italy and went to Egypt where he held a commission as engineer, and died at Khartoum. He

> plant It produces its young

cabbage. Grande, Gironde. He studied at the flowers in compact heads, which are communal College of Sainte-Fev and classical states. er blanched in this plant are

allied species. Faculté, and in 1853 was appointed The peduncles are fleshy, and the At flowers abortive; the inflorescence is

> into season in the autumn. Broch (A.S. burh, burg; Scot. brough, a fortified enclosure) a name applied locally to the ancient round towers or strongholds existing in the N. of Scotland. In Gaelic-speaking districts they are called 'duns' and caiseals' (castles), and to y known as the 'convolu-He was a director of towers.' There are 3-400 Bs., most in

> > construction are hough there is The exterior varies between ter wall there is loorway, about

in. wide. This is the only opening whatever in the outer wall, and is defended by a small chamber within the wall on one or both sides of the entrance. There are, further, some distance within the opening, holes for a sliding bar to guard the entrance. The wall is about 15 ft. thick, enclosing a circular courtyard, open to the sky, in which a well is frequently found. Narrow, circling galleries, arranged in tiers, one above the other, are built into the interior of the wall, connected by a staircase which wound from the metallic and oriental fabrics became base to the summit. These galleries and the number of galleries built into the inner wall. Mousa has a height of 40 ft. with six galleries, and Dun Carloway, 34 ft., with five galleries. Small, beehive-shaped chambers are built round the inside of the court on the ground floor, but in some cases the wall at the base is solid, with only one aperture through which the staircase leads to the first gallery. The other chambers have for their roof the floor of the chambers above. Extensive excavations have been undertaken the instance of the Society of Antiquaries of Scotland, and many relics of the former inhabs, have been discovered. From the tools and implements found it is thought that the B. dwellers were agriculturalists and that the Bs. were used as a refuge for themselves and their cattle from plundering bands. Most authorities date the building of the Bs. to a post-Rom. period, i.e. not earlier than the 5th century. Harold, Earl of Orkney. besieged Mousa about A.D. 1155, but failed to capture it. The Bs. probably suffered at the hands of the Northmen from the 9th to the 12th century. For further information consult the Transactions of the Society of Antiquaries of Scotland; Archwologia Scotica (vol. 5, 1890); and also Gordon's Itinerarium Septentrionale, 1720; Pococke's Tours in Scotland (pub. by the Scottish History Society. Edinburgh, 1887), and Dr. Joseph Anderson's Scotland in Pagan Times. 1883.

Bröchner, Hans (1820-75), a Dan. philosopher. He studied theology and philosophy, and worked for some years at the Copenhagen University, becoming professor there, 1870. B. wrote a treatise on Spinoza, 1857. His chief work is Bidrag til Filosofiens Historiske Udvikling, 1869. He also Geschichte der

Later he was influenced by the new literature in the early 18th century, romantic movement. On Foley's death B. completed many of his works, amongst them the O'Connell monument for Dublin and the statue of for Klopstock. Lappenberg pub. B.'s Lord Canning for Calcutta, c. 1874. autobiography, 1847. See also Brandl's Some of his earliest works are 'Her-Life, and Strauss's Brockes und group—subject taken from Kingsley's Brockhaus, Friedrich Arnold (1772-Hereward), and marble statues of 1823), the founder of the well-known

are lighted and ventilated from the 'Paris,' and 'Enone.' B. executed inner area, or courtyard, sometimes a bronze bust of Lord Leighton, 1873, called the 'well,' by means of windows and a marble one of Queen Victoria, placed in perpendicular rows, and 1901. Among his equestrian statues separated from each other by single may be mentioned that of 'The Black slabs of stone. No B. is complete in Prince,' set up in City Square, Leeds, its upper parts, so that it is impossible to tell the original height Bahadur and Runoodeup Singh' for any the number of callegies built it is the control of the status of the s Bahadur and Runoodeup Singh for the cap, of Nepal. He designed the statues of Richard Baxter, Rowland Hill, Sir Richard Temple (for Bonbay). Sir Richard Owen, and Dr. Philpott. The monument to Lord Leighton in St. Paul's, and Long-fellow's bust in Westminster Abbey are further specimens of B.'s work. He designed and executed the Imperial memorial to Queen Victoria in the Mall. Among his ideal works are 'The Moment of Peril,' purchased under the Chantrey bequest for the nation; 'The Genius of Poetry;' Song,' 1891; 'Eve' (Tate Gallery). B. shows great power as a portraitist, there is dignity, restraint, sympathy, and re-finement in all his work. R.A., 1891; K.C.B., 1911; membre d'honneur de la Société des Artistes Français.

Brocken, or Blocksberg, the highest summit of the Harz Mts., in Prussian Saxony, 20 m. W.S.W. of Halber-stadt. It is the Mons Bructerus of the Romans; has an elevation of 3745 ft. above the level of the sea. It is interesting for the optical phenomenon known as 'Spectre of the Brocken. On its summit, according to ancient superstition, the witches met and held their revels on St. Walpurgis' Night. A railroad up this mt. was constructed in 1898, and an ob-servatory in 1895. The summit is covered with snow from Nov. to June, where there is singularly little

vegetation. Brockes, Barthold Heinrich (1680-1747), Ger. poet, born at Hamburg. Studied at universities of Halle and Leyden, and after travelling widely on the Continent settled in Hamburg, 1704. Part-founder of the 'Patriotic Society,' 1716; later pub. Der Patriot. After 1720 B. held various high offices in the state's service; 1735-41 was amtmann at Ritzebüttel. His chief poetical works were pub. in nine vols. as Irdisches Vergnugen in Gott, 1721-48. He trans. Marini's La Strage 847), an Eng. 48. He trans. Marini's La Strage Chief pupil degli Innocenti, Pope's Essay on Man, of Foley (opponent of formalism in and Thomson's Seasons. His poetry sculpture), afterwards his assistant. marks the changes affecting Ger.

cules Strangling Antæus' (marble Reimarus (Gesammelte Schriften, ii.).

publishing firm of B. in Leipzig, and the publisher of the Conversations-Lexikon. He was born at Dortmund, in Westphalia; in 1811 he started business in Altenburg, and was so successful that in 1817 he removed to Leipzig where he combined the trade of bookprinting with that of publishing. B. bought the copyright of Conversations-Lexikon, which had been begun by Löbel in 1796, and in 1812 pub. a new and improved edition, which he himself ed. It was, from the first, a great success, and has been revised and kept up to date by new editions from time to time: the latest edition was begun in 1902. Consult The Life and

Letters of Brockhaus (3 vols., 1872-81).
Brocklesby, Richard (1722-97), physician, graduated at Leyden in 1745. As physician to the army he worked in Germany during the Seven Years' War, 1756-63, and in 1764 pub. a book. suggesting what he knew from experience were necessary improvements in hospitals. After being physiciangeneral to the royal regiment of artillery at Woolwich, he retired into private life, and proved himself a private life, and benefactor to staunch friend and benefactor to Burke and Dr. Johnson, whom he

attended at death.

Brockmann, Johann Franz Hieronymus (1745-1812), Austro-Ger. actor, born at Graz. In 1762 he went through Hungary with a theatrical company, obtaining a good appointment 1766; 1768 B. gave performances in many different tns.; 1771 went to Hamburg. Under Schröder's management he became the finest actor of his time, being ranked with Garrick and Lekain; 1789-91 director of court theatre in drama. He won fame as 'Hamlet' in Berlin, 1777. Other rôle Regulus, Beaumarchais, and 'Odoardo Galotti' in Ifiland's Jügern.

Brockram ('broken rock'), the local name applied to certain breccias limestone embedded in a red sandy

matrix.

Brockton, formerly N. water, in the co. of Plymouth. Massachusetts, on the New York, New Haven, and Hartford Railroad, 20 m. rubber goods, sewing machines, and Pop. (1905) 47,794. pianoa.

Brockville, a port and cap. of Leeds co., Ontario, Canada, on the l. b. of the Baroness Burdett-Coutts, and the St. Lawrence. It takes its name Sir James Simpson, of whom he exertion General Sir Isaac Brock. It is cuted the statue in Princes Street an important railway junction, being Gardens, Edinburgh.

situated on the Grand Trunk, the Canadian Pacific, and the B. West-port, and Sault Ste. Marie Railroads. manufs are steam-engine. machinery, carriages, gloves, etc. Pop. (1901) 5940.

Brod is a tn. of Hungary, in the prov. of Slavonia, situated on the R save, almost opposite the town of the same name in Bosnia. The town. which is fortified, has a pop. of 8000.

Brodick, a small vil. situated in the Isle of Arran, Buteshire, Scotland. It is a well-known seaside resort, and about 14 m. S.W. by W. from Ardrossan.

Brodie, Sir Benjamin Collins (1783-1862), an Eng. surgeon, was born at Winterslow Rectory, Wiltshire. He studied at St. George's Hospital, to which he afterwards became surgeon. He was elected fellow of the Royal Society in 1810, which awarded him the Copley medal in the following year; he was elected president of the seciety in 1858. B. was attendant physician to George IV., and sergeant-surgeon to William IV. and Queen Victoria. B. wrote an Aulobiography, which, together with his numerous papers on medical subjects, was pub. in a complete ed. in 1865. His son, Sir Benjamin Collins B. (1817-80). was a distinguished chemist, noted for his discovery of graphite acid. He became Professor of Chemistry at the University of Oxford (1855), and president of the Chemical Society (1859).

Brodie, William (d. 1788), a famous Scottish burglar, born in Edinburgh. the son of a cabinet-maker, who was a member of the town council; he succeeded to his father's business, was Vienna. B. was at his best in domestic; a deacon of the Incorporation of the drama. He won fame as 'Hamlet' Edinburgh Wrights and Masons, and in Berlin, 1777. Other rôles were a city councillor. He early acquired a taste for gambling, and frequented a low gaming-hou-e. In 1786 he be-came leader of a gang, the other members of whom were George belonging to the Lower Permian age, Smith, Andrew Ainslie, and John which are found near Appleby, Pen-Brown, which committed a number rith, Kirkby-Stephen, and in other of burglaries in 1787. In 1788 they parts of the N. of England. These broke into the Excise Office, and parts of the N. of England. These broke into the Excise Unice, and breccias consist of broken pieces of though they escaped undiscovered, Brown turned king's evidence, and B. was finally arrested in Amsterdam Bridge- and hung. To the end he kept a good

reputation among his fellow-citizens. Brodie, William (1815-81), Scottish sculptor, born at Banfi, but spent most of his life in Edinburgh. In 1877 S. of Boston. Its most important most of his life in Edinburgh. In 1011 industry is the manuf. of boots and it boots he cademy. He specialised in shoes, but it has also manufs. of Scottish Academy. He specialised in rubber goods, sewing machines, and portrait busts, and numbered among his sitters Queen Victoria, whose bust executed by him is in Windsor Castle.

Brodz, a frontier tn. in Austria man of caution and seldom attempted Hungary, in Galicia, about 56 m. any dashing or brilliant movements. E.N.E. of Lemberg. It is an im- He afterwards became governor of Austriamart between Hungary and Russia, the trade being chiefly in furs, cattle, and agric. implements. Pop. (1900) 17,360, of which two-thirds are Jews.

Brodzinski, Kazimierz (1791-1835), Polish poet. Joined the Fr. army, taking part in the Russian campaign, taking part in the trush of the lish liter-ture at Warsaw University till it was closed, 1831. The idyllic poem Wies-law, 1820, is B.'s chief work. He translated the Book of Job and Schiller's dramas. See Kraszewski's edition of his works, 1872-4.

Brock, a vil., famous for its cleanliness, about 6 m. N.E. of Amsterdam, N. Holland. It has a great dairy

farm. Pop. 1553.

ŧ.

Brodz

The founder of the Fr. line of the family, François Marie, distinguished himself as a soldier both previous to and after his entrance into the Fr. service, and died a general in the service of France. His son also fought in many engagements under the flag of France, serving at one time or another with all the great French commanders of the 17th century. This son, however, became even a more important factor in the history of France than either his father or grandfather had been, and he it was who founded the ducal family, becoming both a duke and a marshal of the kingdom of France. He was born to the end. in the year 1671 and joined the Fr.

He afterwards became governor of Alsace, and took part in the early stages of the war of the Austrian Succession (1740-48). In 1743 he retired, having, in the previous year, been made a duke. He died in 1745. His son, Victor François (b. 1718), was by the time of his father's death recognised as one of the coming Fr. generals. He served with distinction through the war of the Austrian Succession, but he estab. his great name as a soldier during the Seven Years' War (1756-63). He took part in the whole of this campaign, and was made a marshal of France and a prince of the empire for his great victory at Bergen in 1759. After the war he did not take any active part in the military life of France, being in disgrace at the Fr. court. but in 1778 he was partially restored to favour and given command of the troops who were to operate against England. On the outbreak of the Revolution he opposed that movement as much as he could, but ultimately became an émigré and fought in 1804. His son, Victor Claude, against the Revolutionaries. He died Fr. sole

of the fought in America with Lafayette. After mary army been a mei Constituent Assembly, he fell a victim to the 'Terror' in 1794. He remained firm to his Revolutionary principles

Achille Charles Leonce Victor, Duc army at an early age, taking part in de Broglie, distinguished as a Liberal

natist, was born some time after in Switzerland.

in Switzerland, tinued his long service with the Fr. whither his mother had fled. He rearms, taking part in the war of the mained here until the death of Robe-Spanish Spanson and the service services are serviced by the urned to

married hands of tion. He work of

survices ne was promoted to the rank | the Napoleonic empire, and was a of lieutenant-general. During the peace which ensued between the Treaty of Utrecht and the outbreak of the war of the Polish Succession he was employed variously in the reorganisation and general supervision of the Fr. cavalry and also on sev. diplomatic missions. On the out-On the outbreak of war in 1733 he took part in the campaigns in Italy and was in the following year made a marshal of France. He was one of the chief commanders of the Fr., but in 1735 he was superseded, since, though his tactics were always safe, he was a

member of the council of state. In 1814 he was invited to become a member of the Chamber of Peers by Louis XVIII. He had already had his peerage restored to him, and in 1815 he defended Marshal Ney and was the only member of his House who voted for his acquittal. In the following ye of Madame de ninent part in stween 1817

and 1830. Under the régime of Louis Philippe he was Foreign Sceretary, and later Prime Minister. In 1836 he was defeated, and retired from his

position and practically from politics. He was for a time ambas, in London. and sat in the Republican National Assembly after 1845. He was a victim of the coup d'état, after which he retired entirely from politics and devoted himself to literary work. His literary work, while of not great outstanding merit, won for him a place in the Fr. Academy. He died in 1870. Among his works may be mentioned, Ecrits et Discours, 1863; Vues sur la Gourenement de la France, 1861; and Mémoires, 1867. Jacques Victor Albert, Duc de

was born in 1821. Up to 1848 he took active some active part in Rome. The Revolution of 1848, however, drove him from political circles, and he devoted his time to literature, being in 1862 elected a member of the Fr. Academy. In 1871 he again entered active politics and lit is the rienest silver-mining centre was for a short time Fr. ambas, in of the continent. The Proprietary London. Hostile criticism led him to resign that post, and he re-entered chief exports are silthe Chamber of Deputies. In 1873 he Pop. (1903) 27,160. became president of the council and minister for foreign affairs, and later minister of the interior. In 1877 he again became premier, but was almost immediately forced to resign. After 1877 he devoted himself to literature and wrote a number of historical studies. He died in Jan. 1901. Among his most important works are: Frédéric II. and Louis XV., 1885; L'Eglise et l'Empire Romain en IVe.

of coarse hide or half-tanned leather, formerly worn by the native Irish and the Scottish Highlanders. The word is also applied to the pronuncial Broker, tion of Eng. peculiar to the natives negotiate of Ireland.

Broich, a vil. of Rhenish Prussia on the Ruhr opposite Mülheim. Has railroad shops and various manufs; famous castle near. Pop. (1900) 7000. Also vil. of Rhenish Prussia, 6 m. from Aix-la-Chapelle. Pop. (1900) 3000.

Broiling is the best means of cooking small pieces of meat quickly and well, and is particularly suited to invalids. It is done on a clean gridiron, previously warmed and greased, over a clear charcoal fire, which should extend two inches beyond the edges of the gridiron. It is not easy by this means to preserve the odour and fat, but the meat is very nutritious, as it is cooked in its own juices, the immediate effect of B. being to coagutongs, and a fork should on no account be used. It is useless to attempt B. before an open fire, as the meat is then exposed to cold air on one side.

Broke, Sir Philip Bowes Vere (1776-1811), a British rear-admiral, was born at Broke Hall, near Ipswich. He entered the navy in 1792, and was made captain of the frigate Shannon in 1806. On June 1, 1813, he fought his famous duel with the American frigate, Chesapeake, and succeeded in flying the British colours on the enemy's mast after fifteen minutes fierce struggle. B., however, received Broglie, a distinguished writer and a wound which permanently disabled politician, eldest son of the above, him, and was obliged to retire from service. He received diplomatic baronetcy in 1813, and two years missions, serving both in Madrid and, later was created K.C.B.; promoted to the rank of rear-admiral in 1830. See his Life by Dr. Brighton (1866). Broken Hill, a mining tn. of Yan-

cowinna co., New South Australia, about 16 m. E. of Silverton. mine employs over 3000 hands. chief exports are silver, lead, and tin.

what ioint,

however, corresponds to the wrist in man, and is composed of a number of delicately jointed bones. If the fore-legs of a horse give way, it is apt to fall upon this joint, causing more or less severe injury. If only an abrasion of the skin occurs, the wound will cause little trouble, but if the sheath Siècle, 1856-66; La paix d'Aix-la- of the tendon is injured, or if the Chapelle, 1892; Voltaire avant et bones of the joint are fractured, heal-rendant la Guerre de Sept Ans, 1898; ing is a slow process, and is likely to Brozue (Gaelic bron) a shoe made be accompanied by fever. Even if the injury is successfully treated as far ther, injury is successfully treated as far Irish as healing goes, the action of the The animal is likely to be impaired.

Broker, an agent employed gotiate bargains and contra contracts. sales and purchases of goods, for a remuneration, commonly called brokerage. A B. does not act in his own name, nor does he have the custody of the goods about which he negotiates: he cannot sell the goods publicly, but is a middle-man, negotiating privately on behalf of his prin. No personal liability attaches to him for the goods in which he deals. A B. usually specialises in one market, thus acquiring a particular know-ledge which gives him an advantage over the general merchant or private buyer or seller. As well as ordinary commercial Bs., there are stockbrokers (see STOCK EXCHANGE); insurance-brokers, who in general affect late the outer albumen. The meat or lish must be turned rapidly with B. exchange and promissory notes

between the discount at which they are of no value to the farmer. B. have bought or sold the note and the interest at which they have in meadows, B. sterilis and B. mollis borrowed for the effect of the sale; in hedgerows. Some species of and pawn-brokers (q.v.), whose busi- Brachypodium are called false bromeness is of a different nature. Consult grass. Brodhurst, Law and Practice of the Stock Exchange (1897).

Brokerage, the fee or commission given by a 'principal' to a broker or mercantile agent as payment for a bargain concluded by him.

Bromal (CBr,COH), a yellow only liquid formed by the action of dry bromine on alcohol. It boils at 172 and unites with water to form a solid hydrate, melting at 43°. It is decomgastric disturbances. In larger doses stamens, and three united carpels it has a dangerous poisonous action with numerous ovules. upon the heart.

Bromberg, the cap. of the administrative dist. of the same name, in the prov. of Posen, Prussia, on the Brahe, 69 m. N.E. of Posen. The B. Canal, which connects the Vistula with the Oder and the Elbe, by joining the rivs. Netze and Brahe, has opened The up the trade very considerably. chief manufs, are vehicles, furniture, paper, machinery, and snuff. There are also distilleries, breweries, tanneries, and dyeing establishments.

was an attorney by profession. Be-

Pop. (1905) 54,235.

Lane. His plays include I ne Normern as a resummer.

Lassie (1632): Fire New Playes (c. Bromine (symbol Br, atomic weight
1652)—these included 'The Madd 79'96), an element, was discovered by
Couple well Matcht.''Novella, 'Court Balard of Montpellier in 1826 in the
Begger,' City Witt,' and 'The mother liquor obtained after the
Damoiselle.' His particular success crystallisation of salt from concenwas achieved in comedy.

the genus *Bromus*, occurring in in most temperate climates. Sev. species are -prings.

making a profit on the difference common annuals in Britain, but they

Bromeliaceæ isa monocotyledonous order of tropical plants, containing about 400 species which are of little value to man. An exception must, however, be made in the case of the species Ananas sativa, which is the The leaves of these pine apple. herbaceous plants are usually borne as a fleshy rosette which fit in together to form a funnel-shaped receptacle. The brightlyinflorescence has posed by alkalies into formic acid and coloured bracts, and the fruit is either bromoform. The hydrate is used in a berry or a capsule. The flowers are medicine as a hypnotic i.e. to produce usually hemaphrodite and regular, sleep, in doses up to five grains, but with a perianth in two whorls of its use is usually accompanied by three, sepaloid and petaloid, six

Bromic Acid (HBrO2), a monobasic acid formed by passing chlorine into bromine-water; or by the action of dilute sulphuric acid in barium bromate; or by adding bromine to a strong solution of silver bromate. The acid is only known in its aqueous solution, forms salts called bromates, and decomposes at 100° C. into water,

oxygen, and bromine.

Bromide of Potassium (KBr), colourless or white crystalline solid prepared by the action of bromine on potassium hydrate. It is much used Brome, Alexander (1620-66), poet, in medicine for nervous diseases such was an attorney by profession. Besides publishing a vol. of Songs and to
ther Poems, in which he freely satirconditions where it is desirable to
ised the Rump Parliament, he tried
his hand, as was the fashion, at
elegies, epigrams, translations, etc.
As a wit he had a fair reputation.

Brome, Richard (d. 1652), an Eng.

Brome, Richard (d. 1652), an Eng.
tearly life. It is certain, however, that
he acted as a servant to Ben Jonson,
from whom he acquired much of that
writer's style and ability. The relaterm 'bromide' is often used of an
tions of master and servant seem to
have changed to the warmer ties of
friendship, for Jonson himself referred
to him in his lines 'To my faithful
servant and most loving friend.' B.
led to an unhealthy state of mind in
wrote for the Globe and Blackfriars
when the line was epilepsy, delirium tremens, hysis epilepsy, delirium tremens, hysselezias, sheeplessness, as well as other
conditions where it is desirable to
is depress the nervous system, as in
diseases of the skin, throat, and
larynx, fibroid tumours, etc. Its excessive use leads to a condition called
bromism, or brominism, characterised
and sexual weakness, mental dulness
and feebleness, leading to extreme
to bromism, or brominism, characterised
and sexual weakness, mental dulness
and feebleness, leading to extreme
to bromism, or brominism, characterised
and sexual weakness, the nervous system, as in
diseases of the skin, throat, and
larynx, fibroid tumours, etc. It sexexsive use leads to a condition called
bromism, or brominism, characterised
and sexual weakness,
mental dulness
and feebleness. leading to extreme
to form whom he acquired much of that
mental term' bromide' is often used of an
term' bro as epilepsy, delirium tremens, hyswrote for the Globe and Blackfriars some sections of society. In photo-theatres, and for the Cockpit in Drury graphy bromide of potassium is used Lane. His plays include The Northern as a restrainer.

as achieved in comedy.

Brome-Grass is the name of various found to exist in all sea-water to the species of true grasses belonging to extent of one grain to the gallon, and the genus Bromus, occurring in in most mineral waters and salt It derives its name from

allusion to its unpleasant smell. is at ordinary temperature a volatile. heavy, mobile liquid of a reddishbrown colour, giving off reddishbrown vapour and boiling at 59° C. The vapour when inhaled dilute resembles chlorine in smell and in attacking the throat and nose, but in addition it has a very harmful effect on the eyes. The liquid is very poisonous and produces burns on the kin. It is soluble in water, the solu-tion being known as 'bromine-water.' which has a slight bleaching action, and is used in analytical chemistry. for oxidation purposes. The presence of B. can be detected by passing chlorine through the solution, when B. is liberated, and can be dissolved out by ether. It turns starch yellow. B. is one of the family of elements 'halogens' (sea-salt called producers) owing to the similarity of their sodium salts to sodium chloride. The members are fluorine (F 19), chlorine (Cl 35.45), B. (Br 79.96), and iodine (I 126.85). They are are very similar in properties, and show a gradation of properties corresponding to the gradation of atomic weights. They are monovalent, and everally displace one another thus: B. displaces iodine, chlorine places B., and fluorine displaces Chlorine. The properties of B. are intermediate between those of chlorine and iodine. Thus at ordinary temperatures chlorine is a gas. B. a liquid, and iodine a solid. Chlorine and hydrogen unite slowly in day-inch the relative disease applicable. light but violently in direct sunlight, hydrogen and B. need to be heated to unite, while hydrogen and iodine require still stronger heating. chief source of B. is the crude carnallite in the saline deposits of Stassfurt in Prussian Saxony and of the United This substance contains B. combined with magnesium, the magacsium bromide forming one per cent. of the magnesium chloride in the crude deposit. The B. is liberated from the bromide by chlorine, which is separately generated. The hot S. of Kal mother liquor flows down a tower Brömse. filled with earthenware balls, and meets an up-current of chlorine. в. is liberated, and the vapour passes up out of the top of the tower into a worm, where it is condensed. The condensed vapour as it leaves the worm is collected in a bottle, while any uncondensed vapour passes into a tube of moist iron filings, where it forms iron compounds and none is wasted. Electrolytic methods are now becoming common for B. production, as it is found that on the electrolysis of the mother liquor all B.comes off before any of the chlorine.

Greek bromos, signifying stench, in By passing hydrogen and B. through B. a hot platinum tube hydrobronuc acid (HBr) is produced, also by the action of B. on slightly moistened red phosphorus. It is a colourless, pungent smelling gas which, when dissolved in water, forms a liquid strongly resembling aqueous hydrochloric acid. It reacts with metallic oxides, hydroxides, and carbonates to form bromides, saits which are widely used in photography, especially the bromide of silver.

Bromley: 1. A tn. in Kent, England, on the Ravensbourne. There is a fine Gothic church, containing the monuments of several of the bishops of Rochester. Pop. (1901) 27,358. district near Bow, E. London.

Bromley, William (1769-1842). line engraver, became, in 1819, associate engraver of the Royal Academy. Besides being a constant exhibiter at the Royal Academy, he spent many years engraving the Eigin marbles, after G. Corbould's drawings. Some of his better known works are 'Death of Nelson,' after A. Davis; 'Duke of Wellington,' after Sir Thomas Lawrence; and 'Woman taken in

Adultery '(Rubens).

Bromoform, or Tribromomethane (CHBr₂), the bromine analogue is a clear heavy liquid (sp. gr. 277.), turning red on standing, owing to formation of bromine. It was discovered by Löwig in 1832, but its true nature was discovered by Dumas. It is produced by adding bromine to alcohol or to an alcoholic solution of caustic potash. It is decomposed on boiling with caustic potash, and produces potassium bromide and potassium formate. It smells and tastes like chloroform, and by reason of its weight it is used in separating processes in mineralogy.

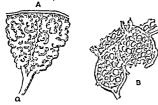
Brompton, a western dist. of London, England. It is in the S.E. of the borough of Kensington. Here are the B. Oratory, an important Catholic Church, and a consumption and cancer hospital.

Brömsebro, a vil. in Sweden, 29 m. s. of Kalmar, near the mouth of the Bromse. It is celebrated for the treaties signed here between Denmark and Sweden in 1541 and 1645. Bromsgrove, a market town Worcestershire, 12 m. N.N.E. Worcester, and 13 m. S.W. Ωſ of Birmingham, with a station on the Birmingham and Gloucester line of the Midland Railway. The tn., which is situated in a pleasant, well-wooded country, has an Edward VI. grammar school, and a fine church in the Decorated Eng. style. Wrought nailmaking and other minor industries are carried on. Pop. 8416.

Bromus, see BROME-GRASS.

WICH. and Bronchitis. The Bronchi trachea or windpipe divides into two main branches, which are ringed with gristle in the same manner as the trachea itself. These main branches lead to the lungs, but are themselves split up into a large number of smaller branches which at the surface of the lung have only capillary dimensions. The two main tubes are called the 'bronchi,' but this name is often applied to all the tubes of the system, which are also called 'bronchial tubes.' The right bronchus lies in a more horizontal position than the left, and since the right lung is larger than the left there is a corresponding difference in the calibre of the respec-The bronchi are lined tive tubes. with mucous membrane, which is a

the bronchial tubes is known as ' bronchitis,' and increases in seriousness as it passes from the wider tubes to the narrower ones. There are three types of bronchitis which may be treated separately, viz. (1) Acute Bronchitis, (2) Capillary Bronchitis, (3) Chronic Bronchitis.



A, a bronchial tube, (a) opening into two collections of air-sacs: B, the arrangement of the blood-vessels which lie underneath the epithelial lining (not shown) of two air-sacs.

Acute bronchitis is a common disease in this country, and is usually obtained by exposure to cold or sudden change from warm to cold temperature. A moist cold is the more likely to produce it, and it flourishes on a damp soil. At the start its appearance is the same as that of an ordinary cold, but the symptoms soon point to something of a more serious nature. These are feverishess, tightness of the chest, and short wheezy breathing. breathing. and at fi

expectorat feeling of

tion afterwards becomes less viscid

Bromwich, West, see West Brom- | patient's condition may be expected to improve. At the beginning of the attack by placing an ear or the stethoscope to the chest a roaring noise will be heard, due to the passage of the air through the swollen tubes lined with thick mucous; but later on this noise will be replaced by a bubbling, showing that the expectorant is more copious and liquid. A whistling noise in the tubes is a serious symptom, as it indicates that the inflammation has reached the smaller tubes, when the danger of restricted respiration is increased. Expectora tion should be encouraged as tending to the relief of the patient, and may be made easier by moistening the air of the room by means of bronchitis kettles.

Capillary bronchitis is a particularly dangerous form of the above, and is the cause of death to many very young children. In it the very smallest tubes are inflamed, and the breathing being stopped suffocation occurs. It can be distinguished by the bluish appearance of the child and its manner of struggling for

breath.

Chronic bronchitis is a condition very often found in old people. consists in the regular recurrence of bronchitis, accompanied by a hacking cough but no feverishness, in the autumn, and its continuance throughout the winter, very often persisting throughout the whole year. An attack of acute bronchitis is very liable to increase the susceptibility of the sufferer, so that great care should be taken in all cases in order that it may not degenerate into the chronic variety. Chronic bronchitis leads to an alteration in the structure of the lung, producing a breaking down of the air tubes, and hence a breathlessness more or less always present. The mucous membrane of the tubes becomes thickened and often ulcerated. and there is a copious fætid expectoration.

Bronchitis may be caused by other means than the catching of a chill. Thus millers, grain shovellers, and all engaged in dusty occupations have been found to be more subject to the disease than others. It has been found that this is caused by the irritation due to the passage of dust (particularly vegetable dust) into the bronchi and the lungs. Then again bronchitis may accompany constitutional weakness such as gout or syphilis, or accompany an attack of typhoid fever or measles. All forms of the disease are dangerous in that they are likely to spread, and medical attention should always be obtained. The treatment will depend on the and more copious, after which the nature and extent of the ailment and

perature.

Bronchocele, see GOITRE

Bröndsted, Peter Oluf (1781-1842). a Danish scholar and archæologist, who travelled in Italy and Greece, where his excavations and explorations were the means of assisting antiquarian study. On his return in 1813 he was appointed to a professorship in the university of Copenhagen. He published a work entitled Travels and Researches in Greece, in both German and French, and also wrote a number of valuable archæological treatises.

Brongniart, Alexandre (1770-1847). eminent Fr. chemist and mineralogist, was born at Paris, the son of an architect. In 1797 he was appointed professor of natural history at Three Collège des Quatre Nations. rears later he became director of the porcelain factory at Sevres, which under his management became known far and wide for its work. While retaining this post till the end of his life, he by no means abandoned purely scientific studies, and he suc-ceeded Haur as professor of miner-alogy in the Museum of Natural History. It was he who proposed the division of reptiles into the four Batrachians. classes of Saurians. Chelonians, and Ophidians. Among his most notable works were his Trailé des Arts Ceramiques, and the Description Géologique et Minéraloque des Environs de Paris, in which he collaborated with Cuvier. died in Paris on October 7.

Broni, a tn. of Lombardy, Italy, 10 m. S.E. of Pavia. It has mineral springs, and near the tn. is the castle

of Broni. Pop. 6000.

Bronkhorst, or Bronkers Spruit, a streamlet in the Transvaal, 40 m. from Pretoria. Scene Boer ambush in the

1880. A British deta down before war ha

Bronn, Heinrich Ger. geologist, was hausen, near Heidell himself largely to studies, and his logicus contains a

tessor of physics and lecturer on Again we have references to this condition of physics and lecturer on Again we have references to this zoology at Heldelberg University, period in Jane Eyre. Some of the portant works, was successively prozoology at Heidelberg and died at Heidelberg.

on the state of the patient, and no on the western slopes of Mt. Etna. The special remedies can be given without dist. produces wine, and has some knowing the circumstances of the trade in oil and silk, in addition to case. It is important that the patient manufs. of woollen cloths and paper. should be well nourished and kept in Lord Nelson was created Duke of a room of warm and equable tem-Naples. Pop. 20,500

Bronte, Charlotte, Emily, and Anne. novelists and poetesses, were three gifted members of a singularly un-Of the three. fortunate family. Charlotte was undoubtedly the most brilliant, and her work gained her a place among the leading novelists of her time. Their father, the Rev. Patrick B., was Irish; their mother, Maria Branwell, a native of Cornwall. The two eldest children of the marriage, Maria and Elizabeth, were born riage, Maria and Elizabeth, were born at Hartshead in Yorkshire; the rest, Charlotte (b. April 21, 1816), Patrick Branwell (1817), Emily (1818), and Anne (1820), at Thornton, near Bradford. In 1821 the family removed to Haworth. in Yorkshire, to the living of which Mr. B. had been presented. In this lonely place, on the border of the bleak Yorkshire moors, the children spent their youth. Their father was naturally of an austere disposition, and this was intensified by the death of the mother in 1821. Henceforward he spent most of his time in his own room, and allowed the household management to be in the hands of his eldest child, a girl of eight. This loneliness encouraged the children in imagining stories, and so we find them all interested in the production of a juvenile magazine, Charlotte being specially versatile. In 1824, the girls were sent to a school for the daughters of clergymen, recently opened at Cowan's Bridge. Miss B. has described it as Lowood in Jane Eyre, and herself declared that her account was in no respect exaggerated. There was no attempt to provide wholesome food for their bodies or suitable training for their The Bs. suffered intensely, minds. and in 1825 the two eldest girls were

m easy victims to of the school, and · their return home. left the school in same year, and on devolved the duty the home and the She stayed at

31, and then went that has proved of great service to to a school at toehead, where she palacontologists. He pub. other im- later became a teacher, and spent some of the happiest years of her life. acquaintances made now became her Bronte, a tn. of Sicily, in the prov. of life-long friends. In 1835 however, Catania, from the cap, of which it is distant and the cap, of which it is distant and the cap, of which it is distant and the cap is tant 33 m. N.W. by rail. It is situated resign her post. An aunt suggested

private school, since Charlotte found that the position of governess in a private house was quite unsuited to her. It was impossible to contemplate this without having some knowledge of French, and so from 1842-44 Emily and Charlotte resided in Brussels. The period seems to have had little effect on the younger sister, as far as her subsequent literary work was concerned, but Charlotte studied not only the language, but the people, to be afterwards reproduced in characters in Villette. In 1845, the three sisters discovered each other's talent for literature, and in the next year they issued a volume of poems, by 'Currer, Ellis, and Acton Bell,' each one keeping her own i

The little book was almost is though what notices it did were not unkind. There is little real genius in it, with the exception of one or two pieces by 'Ellis Bell.' The The young writers, however, were not discouraged, but forthwith each proceeded to write a novel. Charlotte's was The Professor; Emily's, Wuthering Heights; Anne's, Agnes Grey. The work of the two younger sisters was accepted; Charlotte's was rejected on the ground that the plot was too slight, but favourable consideration was promised to a longer sideration was promised to a longer novel. Nothing daunted, she began Jane Eyre, which was accepted by Messrs. Smith, Elder and Co. in 1847. The success of the book was extraordinary. Miss B, had not cared for it, since its sensational plot was, she thought, unsuited to her powers. But the unusual characterisation, the masculine force of expression, and the powerful use of dramatic situations, took the reading world by storm. The name and personality of 'Currer Bell' were eagerly canvassed; but it was not until the publication of her second book, Shirley, that the secret was revealed. In Jane Eyre, and later in Villette, she had made a more or less sithers. study. In S

to portray It abounds in humour, and Emily. is a delightful story, but it is said that she was deeply wounded by the reviews passed upon it. views passed upon it. In the year between Jane Eyre and Shirley she had been passing through the most tracic period of her life. For years the only brother, Branwell B., had been a trial to his sisters. He was certainly not as gifted as they, and it has been said in his defence that the austerity of the Yorkshire parsonage and the melancholic tendencies of his sisters were enough to excuse him much. Certain it is that when Charlotte returned from Brussels she

that the sisters might attempt a small | found him a hopeless slave to the drink habit, and the succeeding years, to his death in Sept. 1848 marked only a decline in his manhood. Dec. of the same year, the brilliant but morbid genius Emily followed. and in 1849 the gentle Anne. Charlotte alone was left of the whole family. The fame which had disclosed her name in 1849 brought her many friends, and gave her the passport to the best literary society of London, but her retiring nature led her to prefer life in the north country. In 1853 appeared Villette, her most charming story, showing her excellences and defects more plainly than either of the others. It is a better study of herself than Jane Eyre, and its quiet, e evident. is her best

> tion of her school-teaching experiences is marked by shrewd characterisation. chief fault of the book is in the plot, if, indeed, there can be any plot in a story whose interest centres chiefly in persons and not in action. attention of the reader is taken by one set of characters only to be drawn off by interest in the fortunes of another. We are first of all engrossed by Lucy and Dr. John; then by M. Paul and his connection; again by the worthless beauty of the school; then by Miss Home and her fortunes. The only continuity is gained by the association of Lucy with all of these, but the book does not lose in interest; rather, we feel the keen pleasure of enthusiasm, the daring of plot, the dramatic intensity of Jane Eyre, but its native kindliness and gentler treatment make it in some ways a more pleasant book. In 1854 Charlotte married Mr. Nicholls, the curate at Haworth. He proved a was opposed

her literary ve spent the last year of her life very happily, and died on March 31, 1855. The usual comparison with Miss Austin is almost inevitable in connection with Miss B.'s work, since there is so evident a similarity between. Both were careful artists in words, and both were more at home with everyday types of humanity than with wild adventure. Both were rather portrait painters than makers of plots. On the other hand. Miss Austin is far more a novelist of the tea-table than Miss B. The latter had far more dramatic power and more vigour; her work was, in a word, more ambitious than that of the earlier writer. Miss Austin

wisely confined herself to the parlour quite recently the Mexicans and and parlour topics; Miss B., if she Peruvians were still in the B. A. It did not range much farther afield, can only be regarded as a distinct yet shows a power of dramatic period in the culture of the human suggestion which is quite unlike any-trace. On the other hand, there are thing in Pride and Prejudice or its many archieologists who deny the companions. Emily B.'s genius was of a more gloomy nature than that of her sister. Wuthering Heights is an extraordinary piece of work, one which fascinates by its strange wildness of treatment. Her characters may be unreal and strained, but the spirit of the bleak moor has seldom been better expressed. Her poetry, apart from her celebrated Last Lines and The Old Stoic, gives little indication that she was one of the band who 'sing because they must.' Anne. the youngest, was the gentlest and least intellectual. Her two novels, Agnes Grey and The Tenant of Wildfell Hall, are far weaker in treatment and texture than any of her sisters' work, her poetry, also, being below the average of that of Emily B. the Temple Edition of the Brontes.

Bronx, The, formerly a district in Westchester co., New York; since 1898 northernmost of five bors. of New York city. Bounded by Harlem, Hudson, and East rivs. and Westchester co. Area nearly 40 sq. m. Contains

B. Park, with its fine zoological and botanical gardens. Pop. about 300,000. Bronze, one of the carliest known alloys, formed of copper and tin in varying proportions, and often containing small quantities of lead, zinc, respectively. manganese, iron, and silicon. It is harder, more fusible, and less malle-able than copper. The principal able than copper. The principal varieties are gun-metal, containing 16 of Cu to 1 of Sn with a little zinc; bell-metal, 3 to 5 of copper with 1 of tin; speculum metal, 2 to 21 of copper to 1 of tin; statuary-bronze, of which a representative composition is copper 78.5 per cent., tin 2.9 per cent., zinc 17.2 per cent., lead 1.4 per British B. coins are copper 95 per cent., tin 4 per cent., and zinc 1 per cent. B. is also used in machinery bearings and for pump-plungers, etc. Phosphor-bronze is gun-metal to which a slight trace of phosphorus is added.

Bronze Age. This name is usually applied applied by archæologists to that period in the history of mankind when the metal predominantly used in the production of weapons and general utensils was bronze. It is usually held to have come between the Stone Age and the Iron Age, but these ages are generally admitted now to have overlapped. The age itself cannot be said to denote any chronological period in the history of civilisation, to one race the age came earlier than to another, and until

existence of a definite period of the B. A., and there is a good deal to be said on their side. Admitting, however, that the Stone, Bronze, and Iron Ages overlapped, the argument that no distinct B. A. existed must fall to the ground, since the 'mixed finds' can be accounted for in this way. But, on the other hand, an argument for which much can be said is that which denies the existence of a distinct B. A. because of the scarcity of tin in many places where bronze finds have been made, and points out that no copper implements The upholders of have been found.

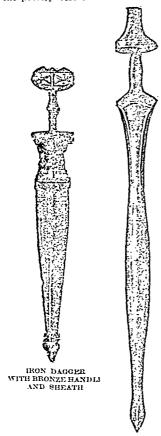


RING MONEY OF THE BRONZE AGE

this argument consider that it is preposterous to jump from a Stone to a Bronze Age without an intermediate Copper Age. This argument is usually met with the reply that bronze was introduced into various countries from outside and from one of the The immediate older civilisations. advantage of a mixture of copper and tin over copper by itself would im-mediately be seen. It is, however, also interesting to notice that the weapons of the B. A. have a distinct likeness to weapons of the East, and this goes far to verify the theory that the manuf. of bronze was brought from the outside. The chief characteristics of the

Stone Age or the later Iron Age. The method of ornamenting the bronze is also characteristic of the age, consistconcentric circles

zas an age of also in that respect from the Stone Age, during chalcoptera is the common B., P. which burial had been the general elegans, brush B., and Ocyphaps rule. The pottery of the period is handmade and usually ornamented, Bronzing, a name given to various



Britain, 1881.

many Australian species of the is the Tara B. which is to be found pigeon family. Columbide. Phans in the museum of the Royal Irish

the decorations being impressed on processes by which a bronze-like or the pottery before it was fired. The other metallic surface is given to objects of metal plaster or wood. Plaster figures are made to have an appearance of old bronze by first painting green with paint mixed with shellac and then painting over with bronze powder, especially the more prominent parts. This bronze powder consists of finely divided brass, copper, aluminium, or other metal to which a particular depth of shade has been given by oxidation. New metal articles are made to have the green appearance so admired in bronze antiques by brushing over with a solution of sal-ammoniac and salt of sorrel boiled in vinegar. Again, metal articles can be made almost any colour by immersions in suitable solutions such as platinic chloride. In printing, the design is printed with shellac instead of ink and the sheet treated with bronze powder, any surplus being brushed off carefully.

Bronzino, Angelo (1502-72), an Italian painter and a pupil of Jacopo da Pontormo. His work is chiefly portraiture, and recognised as better than that of his contemporaries. His best known painting is 'The Descent of Christ into Hell,' in the Uffizi Gallery, Florence, while there are also examples of his work in the National

Gallery, London. Bronzite, a crystalline mineral with a lustre giving it a resemblance to bronze. It is classed as a pyroxene of the rhombic section and is similar in composition to enstatite (which is magnesium silicate), but in addition contains 5 to 14 per cent. of protoxide of iron. It is the sixth and most infusible mineral on Von Kobel's scale of fusibility, being only fusible in very small flakes before the blowpipe. It is very slightly pleochroic and is foliated. Its presence is fairly

common in igneous rocks. Brooch, an ornamental dressfastening, usually consisting of a disc or a semicircle, with a fastening of the safety-pin type attached to it. Bs. are of great antiquity, and were once worn by men as well as by women. The earliest Bs. were of BRONZE SWORD bronze, and were often crude representations of animals. The early Bs. the period are swords, daggers, awis, ring shape, and often displayed rich hammers, and arrowheads. Books: ornamentation and fine-workmanship. Lord Avebury. Prehistoric Times. Several admirable examples are pre-1900; Evans, Bronze Implements of served among the Highland families of Scotland, while one of the best Bronze-wing is a name applied to Irish examples of these old Celtic Bs. Phans in the museum of the Royal Irish

Academy, Dublin. Early Bs. have honorary degree of D.C.L. from also been found in Scandinavia and Oxford, and was created K.C.B. in parts of the S. of Europe, where 1848. He died on June 11 at Burrator they seem to have first originated.

writer. He was the son of a rector of Killinkere, Cavan. He was educated at Trinity College, Dublin, which he entered in 1720. In 1735 he pub. a six-volumed poem called Universal Beauty. In 1739 he produced a tragedy, Gustavus Vasa, which though rehearsed was never performed, for one of the characters, Trollio, was taken to represent Sir Robert Walpole. The play was of a strong patriotic atmosphere. During the Forty-five ' he received as a reward James's Chapel, York Street, from the gov. the position of barrack- position he held until 1875, when he

his wife's death. Brooke, Lord, see GREVILLE.

Brooke, Sir James (1803-66), Rajah of Sarawak, was born at Coombe Grove, near Bath, on April 29, his father being in the service of the East India Company. After being educated at Norwich, he entered the East India army in 1819, and, after being seriously wounded in the Burmese War, he finally quitted the service in 1830. While travelling in the East he conceived the idea of putting down the plague of piracy in the beautiful islands of the Eastern Archipelago and bringing the blessings of civilisation to the inhab. Needless to say, no one but a very remarkable man, and one filled with the spirit of adventure, would have ever thought seriously of carrying out such a proseriously of carrying our such a mo-ject, but B. tried and succeeded. Inheriting £30,000 on his father's death in 1835, he equipped a yacht, carefully trained his crew, and, after preliminary cruises, sailed in Oct. 1838 for Sarawak, on the N.W. coast of Borneo. On arrival he found some of the native tribes in revolt against and other well-known men of the day, the Sultan of Borneo. He assisted in The attempt ended in failure, and putting down the rebellion, and was abandoned in 1847. The state of Sarawak. He immedia to reform the prov., a gov, soon brought prosperity in its trai

and the rigour of his crusade brought him into trouble with the British House of Commons, and he was charged with receiving 'head-money' for the pirates that were slain, but after inquiry he was exonerated. He was appointed governor of Labuan when that island was purchased by the British gov. He received the

vigorous methods aga

in Devonshire, an estate which had Brooke, Henry (1706-83), an Irish been purchased for him by public

subscription.

Brooke, Stopford Augustus, was born at Letterkenny in Donegal, Ireland. in 1832, and was educated at Trinity College, Dublin. There he carried of the prize for divinity and also for Eng verse. He was ordained in 1857 and speedily received preference. After holding various benefices in London. he was in 1863 appointed chaplain to the Princess Royal at Berlin. After his return he became minister at St. master at Mullingar, for his attitude was appointed chaplain to Queen towards the Jacobites. His novel A Fool of Quality is his most popular of England in 1880, and was until work. John Wesley and Charles Kingsley thought highly of it. He Chapel. He made his mark quickly died at Dublin seriously affected by men of letters. His chief publications are: Life and Letters of the late F. W. Robertson, 1865; Freedom in the Robertson, 1865; Freedom in the Church of England, 1871; Theology in English Poets, 1874; a Primer of English Literature, 1876; Riquet of the Tuft: a Love Drama, 1880; Spirit of Christian Life 1881; History of the Tull: a Love Drama, 1889; Spirit of Christian Life, 1881; History of Early English Literature, 1892; History of English Literature, 1894; Study of Tennison, 1894; Life and Writings of Millon, 1898; Poetry of Robert Browning, 1902; Ten Plays of Shake-speare, 1905; Studies in Poetry, 1907; Four Poets, 1908.

Brook Farm, in Massachusetts, 8 m. S.W. of Boston, became in 1840 the scene of a communistic experi-ment, inspired by the transcenden-talism of the time. The attempt was organised by George Ripley, who gathered around him a number of highly educated men and women to carry into practice the ideal of 'a more natural union between intel-lectual and manual labour.' Hawthorne resided on the farm for some time, and it was visited by Emerson and other well-known men of the day.

bout 16 m. W. by was burnt to the

1675. Pop. 4000.
mica becabunga),
a species of speedwell. It is a perennial plant, belonging to the order Scrophulariacem, and grows in ditches and by the edge of streams and ponds. The flowers are blue, and are arranged in axillary racemes: the leaves are opposite and are oblong in shape. Brockline, a tn. in Norfolk co.

Massachusetts, a wealthy residential

suburb of Boston, with some manufa.

Pop. 24,000.

Brooklyn, city, is now a bor, of Greater New York City, U.S.A. It is situated on Long Is., opposite Man-hattan bor. The two bors., between which flows the East R., are con-nected by steam ferries and the B. Suspension Bridge (completed in 1883), which is continually crossed by foot passengers, carriage traffic, elevated railways, and electric cars. The Broadway. B., and Manhattan, are joined by another suspension bridge, 118 ft. wide, which is the largest of its kind, and has trackways for every form of passenger and vehicular traffic. The water front of B. is 35 m., whilst its docks. lined with immense warehouses, grain elevators, etc., are very extensive. The two dry docks are sufficiently large to admit the greatest vessels. Besides carrying on an enormous import and export trade, its manufs. are the fourth largest in America. embracing sugar refining. brewing, embracing sugar reining, brewing, carpets, steam-boilers, glass, chemicals, clothing, lace, paper, etc. Among its many public buildings and charitable institutions may be mentioned the City Hall, of white marble, the Institute of Arts and Sciences, the Marine Hospital, and a U.S. navy yard, the chief naval station of America. B. is celebrated alike for its schools including the Polytechric its schools, including the Polytechnic for boys and the Packer Institute for girls, and its churches of all denominations, where the most distinguished preachers officiate. As the land on which it is built is a little hilly. B. is almost a picture-que city. and is very popular as a residential suburb of New York. It has also two public pleasure grounds. Washington Park and Prospect Park. The latter extends over 540 ac., and has two splendid boulevards. It lies on rising spientid objective. It lies on rising ground at the S.W. of the city. More-over, Greenwood Cemetery (400 ac.), besides possessing many splendid monuments, is noted for its beauty. The Dutch of New Amsterdam first founded the colony of B. (Breukelen) in 1636 It was not incorporated as a city until 1834. Pop. (1909) 1,116.582. Brooks, Charles William Shirley

(1516-74), journalist and novelist, was born in London on April 29. Beginning life as an articled clerk in a lawyer's office, he forsook law for journalism, and after a time became connected with the Morning Chronicle as parl, reporter. He became con-nected with Punch in 1551, contribut-ing 'The Essence of Parliament,' and he succeeded Mark Lemon as editor in 1870. He wrote various plays and novels, and pub, the results of a Russian tour in The Russians of the

South (1856). His novels include The Gordian Knot, 1860; The Silver Cord. 1861; and Sooner or Later, 1868. He

was buried at Kensal Green Cemetery. Brooks, Phillips, American preacher and author, born at Boston, Massa-chusetts, in 135. He entered the Protestant Episcopal Church, and, first at Philadelphia, and later as rector of Trinity Church, Boston (1869-91), he estab, a high reputation as 91), he estab a high reputation as a preacher. He became bishop of Massachusetts in 1891, and died on January 23, 1893. He pub. various rols, of semions, etc., and the hymn O little town of Bethlehem' is from his pen.

Brooks's Club, see ALMACK'S.

Brookwood, part of parish of Woking, Surrey. Station on L.S.W. Railway 28 m. from Waterloo. Noted for asylum for pauper lunatics. Immediately adjoining the railway line is the London Necropolis Cemetery. First England public crematorium íh erected here, 1874. Pop. (urban dist., 1901) over 16,200.
Broom, see BRUSHES.

Broom is the name given to several species of leguminous plants, but chiefly to those which belong to the genus Cylisus, a native of Europe and the Mediterranean. The common B. of Britain is C. (or Sarothamnus) scoparius, an evergreen shrub in which the leaves have been reduced to scales. It grows in very poor soil, and attains a height of about 3 ft.: the flowers are bright yellow and papilionaceous, and the fruit is a dark brown legume with a curious explosive mechanism. The flowers are devoid of honey, and are pollinated by insects which have been attracted by their bright colour. The leaves in the lower part are divided into three leaflets, but the upper scale-like leaves are simple: the wood is a dark greeny-black, and is used in making besoms. Cylisus albus, the white B., is a native of Portugal, as is C. paiens, the falsely named Irish B.; C patents, the latesty landed frish B.; C. purposliferus alluis, a Spanish species, is used for fodder in Madeira. C. purpureus, the purple B., is a hardy plant, which when grafted with Loburnum vulgare, has produced C. Adami. The species C. racemosus, C. canariensis, and C. filipes are grown in British hothouses, while C. nigricans and C. biflorus are garden plants. The Spanish B., Sparlium junceum, constitutes a genus to itself. and resembles the common type. It has an explosive fruit, yields a yellow dye and also a fibre. Species of Genisla also own to the name of B .. but are more commonly called whin or furze, and are noted for their branches, which are reduced to thorns. G. monoeperma is a native of Spain

which grows on the coast, has white Puritanische Revolution. B. continued flowers, and yields a useful fibr Pauli's Geschichte

Broom-corn, or Sorahum and S. saccharatum, are spe Gramineæ, which grow in N. A. The fruit is eaten by cattle, a tops of the grass are made into brooms.

Broome, a small tn. and scaport of W. Australia, situated on the W. of Dampier Land the in Kimberley div. It is the head-

quarters of the pearl fisheries.

Broome, Sir Frederick Napier (1842-96), the son of an Anglican missionary to Canada, emigrated to New Zealand in 1857, and after some years there returned to England, and became a contributor to the Times. He was appointed colonial secretary of Natal in 1877, and of Mauritius in 1882, and thereafter held several ap-

pointments as a colonial governor. He died in London.
Broome, William (1689-1745). Eng. writer and translator, educated at Eton and Cambridge. Part-author of prose translation of the Iliad (1712). He condensed Eustathius' notes on Homer for Pope; collaborated with Pope and Fenton in translating the Odyssey (1722-26). He was considered to have done the greater part of the work, and a couplet

written:

'Pope came off clean with Homer, but they say

Broome went before and kindly swept the way.

B. considered his services in this underpaid, and quarrelled with Pope, who revenged himself by a line in the Dunciad, which was later modified, and also in the Bathos. B. pub. sermons and in the form of the fo 7 / 40 30 Courthope's

Pope's Correspondence, 1871-89. Broomrape is the name given to some parasitic plants of the order Orobancheæ. They have no chlorophyll, and their roots prey on the Common roots of other plants. British species are Orobanche major and O. minor, parasitic on Leguminosæ, particularly clover, O. Hederæ

on ivy, and O. ramosa on hemp. Broons, a tn. of France, in the dept.

of Côtes-du-Nord. Dinan is 15 m. to the N.E. Pop. 2546.

Brosch, Moritz (1829-1907), a Ger. historian, educated at Prague and Vienna; became a journalist; in 1873 he went to Venice and took up he went to venice and took up historical studies. Among his writ-historical studies. Among his writ-ings are: Julius II. und die Grün-dung des Kirchenstaats. 1878: Der Schiehenstaat, 1880-2; Lord Boling-broke und die Whigs und Tories sciner zeit; Oliver Cromwell und die and gelatin remain in the residue in

vrote a chapter on Ottoman Power' Modern History,

English Historical Review, vol. xxii., 1907.

Broscus is a genus of Coleoptera in family Carabidæ, or ground f.he beetles. They are carnivorous, and are remarkable for the almost total absence of indented strime on the elytra and for their large and strong mandibles. B. cephalotes is found under stones and rubbish on English sea-coasts.

Brose (Gaelic brothos), a Scottish dish. It is water-B. or beef-B. according as it is made with water or liquor from the meat. Milk can also be used but whatever the fluid it is poured boiling hot on oatmeal, and the in-gredients are mixed by instant stir-ring. 'Athole-B.,' a Highland drink,

is made of honey and whisky.

Broseley, a small tn. in the Wellington parl. div. of Shropshire, about 15 m. S.E. of Shrewsbury, known for the manuf, of clay tobacco-pipes and other earthenware commodities. Pop. 4639.

Brosimum is a genus of Moraceæ which grows in tropical America. The inflorescence is curious, consisting of one female and many male flowers, and the fruit is an achene. B. Galactodendron is the cow-tree, or milk-tree, found in Guiana, which yields a milky latex. The fruit of B. Alicastrum is bread-nut.

Brosmius is a genus of fish of the cod-fish family, Gadidæ. B. brosme, the torsk, is dried and barrelled in the Shetland Islands.

Brosses, Charles de (1709-77), a man of letters, was the first president of the parliament of Burgundy. His versatility is evidenced by the variety of subjects on which he wrote, and wrote moreover with singular success. In 1750 he published the first work on the ruins of Herculaneum. In his Histoire des navigations aux terres australes he was the first to define Australasia and Polynesia. Besides contributing to the Encyclopedie, and publishing an ingenious theory on the origin of language, he wrote some famous letters on Italy, and brought out, in 1777, a history of the Roman republic (7th century).

Broth, a liquid food prepared by decocting meat with bone and vegetables in water. The ingredients are mixed together in cold water and

creatin and some albuminous and gelatinous matter from the meat, and colouring and mucilaginous stances, a little albumen and volatile too, are now obsolete. oils and salts from the vegetables.

Brotherhoods, associations of people having various things in common for social or religious purposes. During the middle ages a large number of with the dorsal. religious brotherhoods sprang upassociations of men united in a common work, yet without the strict rule of a religious order. The guilds, in which the religious element was at first quite as important as the secular, were of the same nature. In the modern Roman Church these B. and confraternities have largely increased in number, and many have sprung up in the Anglican Church. Freemasonry, another kind of B., was con-demned by the Church for gnosticism in the middle ages; and is now on the Continent much affected by atheism and materialism.

and materialism.

Brothers, Lay, a religious confraternity whose members are employed as servants in monasteries. They are bound by monastic rules, but are not destined for holy orders.

Brothers, Richard (1757-1824), a British naval officer. He was born at Newfoundland and educated at Weeklynd Mrs. frame were more very limited.

Woolwich. His fame rests more upon his religious mania than his marine achievements. He was discharged from the navy when a lieutenant, but returned to the sea after an unhappy marriage in 17°°

views could not be former calling, and b

sea once more. Even the procedure of obtaining his half-pay involved injury to his convictions and he suffered accordingly. His existence was now maintained either in the workhouse or on the open road, and during this chequered career he be-came fired with the idea that he was divinely ordained 'the nephew of the Almighty.' He prophesied the death of the king and the end of monarchy, and was consequently confined as a criminal lunatic. Later removal to a private asylum gave him an opportunity to produce many pamphlets resulting in the support of a few scalots. He foretold the violent death of Louis XVI. which was corroborated in fact.

Brothers, The, are three isolated mts., invaluable as landmarks, quite close to the coast of New South Wales, between Port Macquarie northwards and Harrington Inlet to the S.

an indigestible form; its usefulness works, principally on theology and lies in the fact that it is a stimulant archæology, are now forgotten, they and a relish. The B. itself contains were thought much of in his day. His editions of Tacitus, one of which was pub. in 1771, with commentaries, were his best known works, but they,

> Brotula is a genus of marine fish which is a type of the family Ophidiidre. It is distinguished chiefly by the dorsal and anal fins being united with the dorsal. B. barbatus comes

from the Antilles.

Brötzingen, a vil. in Germany (grand-duchy of Baden), on R. Enns, near Pforzheim. Pop. (1900) c. 6000.

Brouge, a hamlet of the Charente-Inférieure dept. of France. Pop. 601. Brough, market town of E. West-moreland. Pop. 1311.

actress, Fanny B., and brother of the Brothers B.' In his youth he was a journalist, first serving on the Illustrated London News, afterwards on the Daily Telegraph. He pub. its first is the service of the telegraph. issue, and started the present plan of newspaper-selling in the streets. At one time he gave 'ghost entertain-ments' at the Polytechnic Institute. and appeared at the Palace and other halls as entertainer and story-teller. B. started his theatrical career in 1854 at the Lyceum. Then he served for a time on the Morning Star, but returned to the stage for good (1863). He toured in S. Africa and America. becoming very popular as comedian and burlesque actor. Tony Lump-s one of his most noted char-

Among his Shakespeare parts

Toby Belch, Touchstone, the Host of the 'Garter' in *The Merry Wires*. In 1812 B. stage-managed Babil and Bijou at Covent Garden. While under Tree's management he played the Laird in Trilby (1895). Other rôles of his were Bumble in Oliver Twist, Brisemouche in A Scrap of Paper. He appeared in Terry's Sweet Nell of Old Drury (1901), and in Into the Light at the Court (1908).

Brougham, Henry Peter, Baron Brougham and Vaux (1778-1868). Lord Chancellor of England, was born in Edinburgh on Sept. 19. He was educated at the Edinburgh High School, which he entered in 1785 and left in 1791, being then the head of the school. He early hecame known as a scientist, and was elected a fellow of the Royal Society as a elose to the coast of New South Wales, reward for various scientific articles between Port Macquarie northwards and Harrington Inlet to the S.

Brotier, Gabriel (1723-89), author, was born at Tannay in the old prov. hope of future preferment in a career of France, Nivernais. Although his at the Scottish bar, and so in 1803

he came to London, entered at to parliament as the member for Lincoln's Inn, and in 1808 was called York. The gov. under the Duke of to the Eng. bar. In 1802 the famous Edinburgh Review had been founded, and B. became one of its first and most capable contributors, so much so that by the time he went up to London in 1803 he was a man of considerable mark. He speedily became known amongst the Whig politicians. and was employed on a diplomatic mission to Portugal during 1806. He produced also a great number of political pamphlets during 1807, and was of immense help to the Whigs during that period. But his hopes of a seat in the Commons were still unfulfilled, and in 1808, after being called to the Eng. bar, he joined the northern circuit. Campbell in his Lives of the Chancellors points out that he did not make his name in legal circles until after he had become actively politician. About this time he became iovement a move-

will ever be closely associated. He was retained by some Liverpool merchants who were petitioning against the orders in council, and after being heard by both houses for some days although he lost the case, nevertheless he estab. his reputation. In 1810 he became a member of parliament. In a very short time he had won for himself a considerable reputation as a speaker and politician, and was regarded on all hands as the future leader of his party. From 1812-16 he was out of parliament, having been defeated at Liverpool, but it was during these years that B. became the adviser of the Princess of Wales. He was urgent in his advice to her not to leave England, and he opposed equally vehemently her return to England after the death of George III. In 1816 he had again entered parliament and did some useful work, especially on the committee which inquired into the state of education amongst the poor of London. in 1820 he was appointed attorney-general for the queen, and conducted her defence when the ministers intro-duced a bill for her deposition and for the marriage - marriage tο ier ably. anı · further by the ministers. As a matter of course his conduct of this case raised him high in his profession, and he shared in the triumph of the queen and the people over the court and the ministers. His reputation as a the ministers. His reputation as lawyer was founded, and he rose immediately to an immense practice on the northern circuit. During the next few years his practice grew immensely, and in 1830 he was returned

York. The gov. under the Duke of Wellington, defeated shortly afterwards, resigned, and Earl Grey was sent for by William IV. So high was sent for by William IV. So high was sent for by William IV. So high was sent defeated by the simpossible to leave him out of the gov., and in 1830 he was created Baron B. and Yaux. and given the Great Seal The passing of the Reform Act was in a great measure due to the skill with which he defended the bill, but with the passing of that bill the authority of B. began to decline. His manner of B. began to decline. His manner had been rapidly becoming dictatorial, he regarded himself as indispensable, and he probably used the Edinburgh Review in order to try and increase his influence and for self-glorification. In 1834 Grey resigned, and B. remained for a time with Melbourne. But his conduct was rapidly becoming too indiscreet, and his betrayal of the confidence of Melbourne on the dismissal of the ministers was the finishing act of his official career. The formation of the second Melbourne ministry in 1835 did not lead to his reappointment as Chancellor, the Seal being put in commission; but B. never forgave the Whigs for that, and during the rest of his career he spoke as an independent member. He was insatiable in the number of bills which satisfies in the number of only which he introduced, and in the number of speeches which he made. But his vanity received its severest blow when, in 1836, the Great Seal was given to Lord Cottenham. His career during the thirty years which he was yet to live is the record of one long attack upon the holders of those principles which he himself never repudiated. During this period he did some good work on the judicial side of the House of Lords, but his reputation would have been clearer and higher had he died considerably earlier. In 1860 he received a second patent of peerage with remainder to his younger brother William, the patent setting forth that the peerage was given in recognition of his services to the cause of education. and in the movement for the abolition of slavery. His last days were spent at Cannes, where he died on May 7. at cames, where he died of may in addition to his reputation as a voluble speaker, he was also known by the amount of his writing and correspondence. For a considerable time he wrote for the Edinburgh Review, and in addition he published many other writings.

many other wholes.
Broughton, Rhoda, novelist, born at Segrwyd Hall, near Denbigh, N. Wales, on Nov. 29, 1840, being the daughter of a clergyman. She came into prominence as a novelist of the popular type while still in her

finally settling at Richmond. Among her best known novels are Cometh up mer dest known novers are Cometh up as a Flourer, 1867; Not Wisely but Too Well, 1867; Red as a Rose is She. 1870; Nancy, 1873; Joan, 1876; Belinda, 1883; Dr. Cupid, 1886; Alas! 1890; A Beginner, 1894; Scylla or Charybdis, 1895; Dear Faustina, 1897; The Game and the Candle, 1899: and Lavinia, 1902. Broughty Ferry, a watering-place of

Forfarshire, on the Firth of Tay, 34 m. E. of Dundee, with a station on the N. British Railway. Fishing is almost the only industry, but the tn. is largely used as a place of residence by business men of Dundee. The castle, at the E. end of the tn., was repaired about the year 1860, and converted into a defence for the Tay. Pop. 10,482.

Broussai, see BRUSA.
Broussais, François Joseph Victor (1772-1538). the son of a physician, was born at St. Malo. After taking a medical degree in Paris, he served as an army surgeon, and in 1814 was appointed assistant professor at the military hospital of Val-de-Grace. About this time he introduced a theory of medicine, which asserted that life was sustained only by excitation or irritation, and that all diseases were at first local but were made general by the 'sympathy' of the otherorgans. Hisviews were explained in his Examen de la Doctrine medicale généralement adoptée (1816): met with considerable acceptance, although at first hotly contested by the medical profession in Paris. became professor of general pathology at the Academy of Medicine in Paris in 1830, and died at Vitry-sur-Seine.

the order Moracew. From the inner bark of B. papyrifera, or paper mul-berry, the Chinese and Japanese manuf. paper, and the S. Sea islanders

Brouwer (or Brauwer), Adrian, a Dutch painter, born either at Haarlem or at Oudenarde, of poor parents, about the year 160s. He became a pupil of the painter, Franz Hals, at Haarlem, who does not seem to have treated him very honourably, settled at Antwerp in 1630, and did some good work, but led a rather wild and dissipated life. His career was cut short about the year 1840. when he died of plague in an Antwerp hospital. Rubens, under whose influence he had come, gave him a decent burial. His subjects for the most part were drinking groups, tavern scenes, merry-makings, being in themselves a reflection of the life he had led. Brower, Jacob Vradenberg (1844-

'twenties, and continued to produce 1905), American explorer and archæworks of fiction for many years, ologist, born at York, Michigan. He served during the Civil War in both cavalry and navy, and was a member of the Minnesota legislature, 1867-73. discovered many prehistoric mounds at Mille Lac and other places in Minnesota. Among his works are: The Mississippi River and ils Source. 1893; Prehistoric Man at the Head Waters of the Mississippi: The Missouri River and its Ulmost Source; Quivira, 1898; Harahey, Mille Lac, 1899; and Kansas. Monumental Perpetuation of its earliest History, 1541-1896 (1903).

Brown, Mt., a peak in the Rocky Mts., on the frontiers of British Columbia, and near the source of the Columbia R. Height about 16,000 ft.

Brown, Charles Brockden (1771-1810), an American novelist. His parents were Quakers of Philadelphia, where he was born. His delicate constitution favoured a retiring disposition and a capacity for study. He early showed a propensity for the arranging of elaborate architectural designs, a trait afterwards evident in his careful construction of utopias and similar perfect commonwealths. His works are extremely terse in style and weird in conception, and include: Wieland, 1798; Arthur Merryn, 1798; Edgar Huntley, 1801; and Ormond, 1799. He subsequently, upon a decline of his powers, devised a system of geography, and died of consumption on Feb. 22.

Brown, Ford Madox (1821-93), an English painter. His father was a retired navy purser, who at this time lived at Calais, where Ford Madox B. was born. His grandfather was the founder of the Brunonian theory of medicine. At a very early Broussonetia is a diœcious tree of age he showed an especial aptitude for drawing and painting, and he was sent at the age of fourteen to receive tuition at Bruges. His prin. instructor, how-ever, was Baron Wappers, who was at this time regarded as the head of the Belgian school. He first exhibited in 1837, and three years later exhibited in England at the Royal Academy, the picture being 'The Giaour's Confession.' In the same year he com-pleted his 'Execution of Mary Queen of Scots.' In 1843 he took part in the cartoon competition for the mural decoration of the Houses of Parliament, and his pictures received very high praise but no prize. Having on the death of his parents been left with a fair competence, he spent the next few years travelling. From 1840-5 he spent in Paris, Rome, and London, and in the latter year he definitely

settled down in London. He married twice: first, in 1841, Elizabeth Bromley, and secondly, on the decease of his first wife in 1846, Emma Hill. left three children, Lucy, who married works, however, belong to his later W. M. Rossetti in 1874; Catherine, period, after he had returned to who married Dr. Hueffer; and Oliver, himself an artist, who died in his twentieth year (1874). Amongst the chief pictures of Ford Madox B. may be mentioned: Manfred on the Jungfrau.' 1841; 'Chaucer at the Court of Edward III..' 1851; 'Cordelia and Lear;' 'Cromwell, Protector of the Vandois;' 'Christ washing Peter's Feet;' 'Work:' 'Romeo and Juliet.' His style had much in common with the pre-Raphaelite school, but came rather before that movement had reached its summit.

Brown, Sir George (1790-1865), was born and died at Linkwood, Elgin, the on of George B., Provost of Elgin. Entering the army in 1806, he saw active service in the Peninsular War, and afterwards in the Crimean War, and was wounded at the battle of

mander-in-chief in Ireland in 1860. Brown, George (1818-80), Canadian politician, born in Edinburgh, and educated there; removed to New educated there; removed to New Brown, Dr. John (1715-66), writer, York in 1838, and was engaged in has made, according to John Stuart journalism. In 1843 he went to Mill, a clever defence of utilitarian Toronto and founded there in 1844 philosophy in his Essay on the Characteristics of Lord Stattlebury. His the Toronto Globe, still the leading Liberal Canadian paper. In 1852 he entered the Canadian parliament, and in August 1858 formed the Brown-Dorian administration, which signed in a few days owing to an adverse vote of assembly. During adverse vote of assembly. During 1864-5 he led the Reform section of the Coalition gov., resigning on account of a difference of opinion rejoint Canadian plenipotentiary with Sir Edward Thornton at Washington. He was shot by a discharged employee in 1880.

Se He then started on his literary career in London. His House with the Green edition with memoir.

Brown, George Loring (1814-89), was thirty years of age to study art in Europe, where he spent the first half Bible and the Dictionary of the Bible.

He of his working life. Some of his best period, after he had returned to America, notably 'Niagara by Moonlight ' (1876).

Brown, Henry Kirke (1814-86). an American sculptor, was born at Leyden, Massachusetts. After studying in Europe, he returned to his native country in 1846, and executed some notable works, including an equestrian statue of Washington in New York, and one of General Scott in Washington.

Brown, Horatio Robert Forbes, Eng. author, born at Nice in 1854. He was educated at Clifton College and at New College, Oxford. In 1878 he visited Venice, where he has since lived much, studying its life and history. His numerous contributions to Venetian literature include: Life on the Lagoons, Venetian Studies, Venice, The Venetian Printing Press. In and Around Venice, Studies of the History of Venice, Calendar of State Papers Inkermann (1855). He held various of Venice, Calendar of State Papers staff appointments, attained the (Venice), and a translation of Molrank of general in 1856, became comments's Storia di Venezia. He has also written a life of John Addington Symonds, and a vol. of poems called Drift.

> philosophy in his Essay on the Characteristics of Lord Shaftesbury. His Estimate of the Manners and Principles of the Times, 1757-8, which was a vehement satire on luxury and the like, was exceedingly popular, whilst his Barbarossa (1754) was played with success by Garrick. An attack of melancholy accounts for his suicide.

Brown, John (1722-87), of Haddington, the son of a poor weaver, was garding a reciprocity treaty with the born at Carpow, near Abernethy, U.S.A. In 1864 he was delegate to Perthshire. He lost both father and conferences at Charlottetown and mother at an early age. He studied Quebec, and in 1865 went on a mission Gk., Lat., and Heb. while working as Quebec, and in 1909 went on a mission of the London. In 1873 he became a a herd-boy, and a well-known story dominion senator, and in 1874 was tells of his journey to St. Andrews, 24 m. distant, to obtain a Gk. Testament. The bookseller laughed at such a request from a shepherd boy, but a university professor, who happened university professor, who happened to be in the shop, gave him a copy, saying, 'Boy, read this, and you shall have it for nothing.' The boy read a verse, and tramped off with his prize to his Tayside hills again. He served with the gov. forces in the '35, was a schoolmaster from 1747 to 1750, and become a paytor at Haddington in Shullers attracted much notice (1901), with the gov. forces in the '35, was a It represents some of the harder schoolmaster from 1747 to 1750, and aspects of Scottish life, and is useful became a pastor at Haddington in to contrast with the works of Barrie 1751, Retusing a call to New York in and Ian Maclaren. See Andrew Lang's 1784, he continued to live at Haddington on a stipend of £40 or £50 a year In 1768 he was until his death. American landscape painter, was born appointed professor of theology to at Boston. He left America before he the Associate Burgher Synod. His was thirty years of age to study art in works included the Self-Interpreting

Brown

he explained a new system of treat-ment. Written in Lat.—he was famous as a Lat. scholar-this book gained him a world-wide reputation. His sound doctrine, that morbid action was often the result of weakness, and therefore called for stimulating treatment, is now universally accepted.

Brown, John, D.D. (1784-1858), the son of John B. of Whitburn (1754-1832), and the grandson of John B. of Haddington. He studied at Edinburgh University and the Burgher Theological Hall, Selkirk, and, after a short period as schoolmaster, was ordained to a pastorate at Biggar. Lanark, in 1806. Thereafter he held successively the pastorates of Rose Street Church. Edinburgh (1822-29).

Syme, to whose qualities his pen paid of which he was twice mayor and an affectionate tribute in later years. Conscientious and painstaking as a medical man, he was, at heart, more devoted to literature than to medicine, though always diffident of his literary He wrote little, but wrote that little extremely well. His chief publications were the collection of essays known as Hora Subseciva, and John Leech. In the latter he tells us that it was he who originated the first National Exhibition of Roses in He is chiefly remembered London. for his charming, quaintly written essays, among which Rab and his Friends and Marjorie Fleming are perhaps the best known. He spent all his life in Edinburgh, where he died.

Brown, John (1800-59), American abolitionist, was born at Torrington, Connecticut. He came to be known as John B. of Ossawatomie on account

Brown, John, M.D. (1735-88), was and certainly displayed a stern rethe founder of the Brunonian system ligious spirit, which at times bordered of medicine. Being a lad of promise, on the fanatical. He thought, at he was admitted free to the lectures first, of entering the Congregational at Edinburgh University. In 1780 he ministry, but, after a brief period as pub. his Elementa Medicina, in which a tanner and currier, he turned to land surveying. He gradually became absorbed in the anti-slavery campaign, and in pursuance of that object he migrated to Kansas about the year 1855. He became a leader in the Kansas border war, and at the close of the war he resumed his antislavery campaign. On Oct. 16, 1859, he made his notorious night raid on a federal arsenal at Harper's Ferry, with the object of arming the negroes for an insurrection. He was captured two days later, tried, and hanged at Charlestown, Virginia.

Brown, Sir John (1816-96),British steel and armour-plate manufacturer. b. in Sheffield, son of a slater. At fourteen he became an apprentice in a file and table cutlery manufactory, and Broughton Place, Edinburgh. In of which he ultimately became the 1830, Jefferson College, Pennsylvania. manager. He invented the conical conferred upon him the degree of steel buffer for railway wagons, was D.D., and in 1834 he was elected prothe first to make steel rails, carried on fessor of Executical Theology. He and improved the Bessemer process was engaged in many controversies, and invented a_method of rolling notably in the Atonement contro-versy of 1840-45. In 1845 he was plate had been used hitherto, but B.'s tried for his views before the Synod, method was so successful that he re-but was honourably acquitted. He ceived orders from the Admiralty for was a voluminous writer on religious armour plate for about three-fourths subjects.

Brown, John, M.D. (1810-82), son he started the huge Atlas Works for of Dr. John B. (1784-1858), was born the manuf. of armour-plate, railway at home and afterwards at Edin-carriage axles and tires and steel rails. burgh. At Edinburgh University he B. received a knighthood in 1867, and studied under the eminent surgeon. was much honoured in his native tn., B. received a knighthood in 1867, and master-cutler.

aster-cutier. Brown, Launcelot (1715-83), archi-ot was horn at Harle-Kirk, Northtect, was born at Harle-Kirk, North-umberland, and was known as 'capability B., and acquired the art of landscape gardener early in life. He laid out the grounds at Kew and Blenheim. His architectural works began with a house and church at Croombe for the Earl of Coventry. He became High Sheriff of Hunting-donshire in 1770.

Brown, Oliver Madox (1855-74), an Eng. author and painter, son of Ford Madox B. (q.r.). born at Finchley, and showed remarkable precocity both in painting and literature. In 1869 he painting and negative. In 1808 he exhibited at the Dudley Gallery 'Chiron receiving the Infant Jason from the Slave,' and in 1870, 'Ob-stinacy.' His 'Exercise' appeared in the Royal Academy in 1870; his Prospero and Miranda, at South of a victory which he gained over in- Kensington in 1871, and 'A Scene vading Missourians at that place in from Silas Marner' at the gallery of 1856. He was said to have been the Society of French Artists in 1872, descended from a Mayflorer pilgrim, His literary work, including poems been collected in Literary Remains,

published in 1876.

Brown, Peter Hume (b. 1850), a Scottish historian. He is Fraser professor of anct. Scottish history and paleography at Edinburgh University, editor of the Privy Council Register of Scotland, and was appointed historiographer royal for Scotland in 1908. He has done much to popularise the history of Scotland, issuing a number of vols. for use in schools. His other works include: Early Travellers in Scotland, Scolland (three vols., the last appearing in 1909), Scotland before 1700. Scot-

at of Montrose, and a school-fellow of Relation of Cause a and Lectures on the entered first the Marischal College, Human Mind, 1820.

Aberdeen, and afterwards removed to Edinburgh University. His ability and his application attracted the was born at Dougle than the father has been supposed in 1765. Man. His father has been supposed in 1765. attention of his professor. In 1795 he obtained a commission and served in the N. of Ireland. He became a protégé of Sir Joseph Banks, and was, by him, given the post of naturalist in an expedition which was setting of the coast of

lition returned.

h a rare collec-; tion of specimens numbering about 4000. In 1810 he pub, his greatest work, Prodromus Floræ Novæ Hollandia et Insula Van Diemen. In the same year he became private secretary to Sir Joseph Banks. The library and collection of Sir Joseph Banks were, on his death in 1820, bequeathed to B. for life. In 1827 he made them over to the British Museum and became keeper of this botanical dept. He held this position until his death in 1858. His fame as a botanist was international. He was a fellow of the Royal Society, an associate of the Institute of France, and received the order pour la merite from Prussia.

Brown, Thomas (1663-1704), an English satirical writer, born at S. pnal in Shropshire, referred to by Addison as of facetious memory. He studied at Christchurch, Oxford, where he is said to have escaped expulsion by extemporising the famous verse:

' I do not love thee, Doctor Fell, The reason why I cannot tell; But this I know, and know full well, I do not love thee, Doctor Fell.'

Brown was for a time a schoolmaster near London, in which city he after-

and short stories, the novels Gabriel wards lived by his pen. His writings Denver and Hebditch's Legacy, have are numerous and miscellaneous, and while witty, are coarse and frequently vulgarly abusive.

Brown, Thomas (1778-1820), a distinguished Scottish metaphysician. born at Kilmarnock, and educated at the university of Edinburgh, where he attended the lectures of Dugald Stewart, professor of moral philosophy. He abandoned his arts course for medicine, becoming doctor of medicine about 1803, and in 1806 a partner with Dr. James Gregory. Resigning his practice in 1810 in order History of to assist Dugald Stewart, he became a popular lecturer, holding the position until his death. He wrote many poems of no outstanding merit, but fe of this philosophical works show great His merit and power of analysis, although Times, and 4 Short History of Scotland. now little known. His publications
Brown, Robert (1773-1858), a include: Observations on Darwin's famous British botanist, born at Zonomia, 1798; An Inquiry unto the Zoonomia, 1798; An Inquiry unto the Relation of Cause and Effect, 1804; and Lectures on the Philosophy of the

Brown, Thomas Edward (1830-97), poet, schoolmaster, and divine. He was born at Douglas in the Isle of His father held the living of St. Matthew's, and was chiefly strumental in the education of his son. He ated at King ence he proced ford.

and Here he was rewarded with a fellowship, soon tired of his fellowship, He returned for a short time to his native isle, where he became the vice-prin. of his own school. After a short period as a headmaster at Gloucester, he accepted the headmaster of Clifton's (Dr. Percival) offer of the position of master for the modern side. Here he remained from 1863-92, when he retired. He pub. a number of poems and collections of poems, amongst and collections of poems, amongst which may be mentioned, Fo'c'sle Yarns, 1881; The Doctor and other Poems, 1887; The Manx Witch, 1889; and Old John, 1893. His collected poems were pub. by Messrs. Macmillan in 1900. Whilst revisiting his old school (Clifton) in 1897, he was suddenly taken ill and died there in October.

in October. Brown, Sir William (1784-1864). banker and merchant, was born at Ballymena, his father being a linen merchant. He was taken at an early age to America, but returned from there in 1809 and settled down in Liverpool. Here he estab. a business, first as a linen merchant, later as an importer of raw cotton, and finally as a banker. His trade increased very rapidly, and so successful was he that the Bank of England helped him to tide over the financial crisis of 1837.

since the interests affected by his firm were so varied. In 1844 he is said to have possessed at least one-sixth of the whole trade between America and England. He was Liberal M.P. for S. Lancashire from 1846-59. In 1863 he was made a baronet. He was a generous donor to the city of Liver-

Brown Bess, the name (obsolete since the introduction of the rifle) given by the infantry of the British army to the flint-lock musket used by them in the 18th and early 19th centuries.

Brown Spar, a variety of dolomite containing carbonate of iron. examples of ankerite, siderite, and

breunnerite.

Browne, Charles Farrar, a celebrated American humourist and writer who ford in Maine, and began life as a and tutor of Emmanuel College. Plaindealer, and this series of articles received a fair amount of attention and popularity both in America and in England. The satire which underattention, and he was invited to become a contributor and the editor of a new paper, Vanity Fair, which commenced publication in 1860. The paper failed, and Artemus Ward became a travelling lecturer, meeting in the course of his lectures with adventures more or less varied amongst the Mormons and Indians of America. His reputation as a lecturer was speedily assured, and Ward travelled over the greater part of the American 1864 he was for a short time unable recovery he resumed his lectures, and 'Turkey. His whole life was full of admin 1866 he crossed over to England, venture: he was taken prisoner by the where he speedily made himself Turks, and sev. times sold as a slave, popular. He was known in England Later he fought in the Seven Years' both for the variety and humour of. War, and was wounded at Zorndorf, his lectures, and also for his contributions wounded at Zorndorf, his lectures, and also for his contributions to Punch, contributions which the was made major-general and then there is the was milled marshal by Peter III. For the were similar to these which he had last thirty years of his life he was written on the other side of the governor of Livonia and Esthonia, Atlantic. In 1867 his health again from which position Catherine II, broke down, and in the March of that released him only when extreme old year he died at Southampton. His agerendered this absolutely necessary.

Browne, Hablot Knight (1815-89) year he died at Southampton. His aggrendered this absolute piecessary, complete works were pub. in the same

Browne, Hablot Knight (1815-82), year in London. Amongst his chief an English artist, best known by works may be noticed, Artenus pseudonym 'Phiz.' He was born of Ward, his Book, 1862; Artenus poor parentage at Lambeth. He Ward amongst the Fenians, 1865; received what artistic training he Artenus Ward in London, 1867.

Browne, Edward Granville (b. 1862), He holds the position orientalist of Sir Thomas Adams, professor of Arabic at Cambridge University, is a fellow of the British Academy and fellow of the Royal College of Physicians. His chief works are: A Year Among the Persians, Literary History pool, presenting that town with a of Persia, A Brief Narrative of Recent public library and museum. Events in Persia, 1909: The Persian Revolution, 1910; translation of The Four Pillars of the Persian Constitution: a catalogue of the Persian MSS. in the Cambridge University Library. and a hand-list of its Mohammedan MSS.: an Arabic translation of Ibn Isfandiyár's History of Tabaristán; colour inclines to red or brown, he has also edited Episode of the Bab The term is sometimes applied to and New History of the Bub for the Cambridge University Press, and Memoirs of the Poets of Dawlatshah.

Browne, Edward Harold (1811-91). American humourist and writer who an English bishop. He was born adopted as his pen name Artemus at Aylesbury, and educated at Eton Ward. He was born in 1834 at Water- and Cambridge. He was a fellow compositor, later becoming a reporter 1843 he became vice-prin, of Lampeter and a contributor to the newspapers. College, and was later appointed About 1858 he pub. the first of the Norrisian professor of divinity at Artemus Ward series in the Cleveland Cambridge. In 1850-3 appeared his famous book, the Exposition of the Thirty-nine Articles, a book which was for a long time the standard work on this subject and which ran into many editions. He became bishop of lay the atrocious spelling and the many editions. He became bishop of grave moralising attracted universal Ely in 1864, and was one of the most prominent churchmen of the time. In 1873 he was translated to Winchester, which see he resigned owing

The to ill health in 1890.

Browne, George. Count von (1698-

of the Elector Palatine, since, as a Catholic, he was excluded from many appointments in his own country. From Germany he passed into the states lecturing on a variety of topics. Russian army, where he rapidly disand accompanied by a panorama. In tinguished himself. After successfully quelling a revolt against the Empress 1864 he was for a short time diable queming a total against the large to carry out his programme of lectures. Anne, he took an active part in the owing to a severe illness, but on his wars against Poland, France, and recovery he resumed his lectures, and Turkey. His whole life was full of adin 1866 he crossed over to England, venture; he was taken prisoner by the

very successful creations of his may be mentioned. Mrs. Gamp, Tom be mentioned, Mrs. Gamp, Tom Pinch, Major Bagstock, Micawber, and David Copperfield. He also did works and also some for Harrison Ainsworth. In 1867 he suffered from slight paralysis, after which he did put forv no more really successful work. 1878 he was awarded a pension by the Royal Academy.

Browne, Maximilian Ulysses, the descendant of an Irish Jacobite family. He was b. at Basel on Oct. 23, 1705. His father and uncle were two of the exiles of 1690, his father entering the Austrian service and becoming ennobled, whilst his uncle entered "

Russian service and became a fic marshal. He himself entered service of Austria at a very early a and was rapidly pushed on. He had, Church and became vicar of a church however, great military genius, and in Northamptonshire. Here he reto influence he would also have de-Great was restrained. At the end of the war he was promoted to the rank of commander-in-chief of the army of Bohemia, and in 1753 he became a field-marshal. He was still an active officer when the Seven Years' War (1756-63) broke out, and he took an active part in the early campaigns. He commanded the Austrians at the battle of Lobositz (1756), where he

ated in good wounded at 3 and dashing

and popularity is very largely due the magnificent manner in which the Austrians fought.

Finden, a famous steel engraver. He a schoolmaster. He, however, took intended originally to be a painter, orders, and remained for a time in but apart from his illustrations for the Church, but his licence to preach Dickens, Lever, and Ainsworth, his was revoked when he began to attack work is not at all outstanding. He and condemn the discipline of the became the artist for the illustrations | Established Church. So fiercely did of Dicken's Pickwick when it was he denounce the government of the first issued, and always signed his Church that he was imprisoned in drawings as Phiz. He was the creator 1581 by order of the Bishop of of the Sam Weller which all readers Norwich, and only released because of Dickens know, and amongst other of the influence which he could bring very successful creations of his may to bear. After sex, imprisonments he to bear. After sev. imprisonments he retired to Holland, and here he formed a church. The church was not, how-Pinch, Major Bagstock, Micawber, a church. The church was now how and David Copperfield. He also did ever, very successful and soon broke some drawings for Punch, and did up. He had, in the meantime, issued most of the illustrations for Lever's a number of works, in one of which, and the country of the property of Regular which chough the Life and A Booke which changes the Manners

> In modern . built un.

Middelburg, he returned to Great Britain and remained for some time in Scotland. He then returned to his own neighbourhood, and tried to extend his doctrines there. He again suffered imprisonment, but his attitude towards the Established Church

although his rapid promotion was due | mained for about forty-two years, but he had always been a man of violent served it for ability. He took part in temper, and he was in 1630 thrown the Italian campaigns of the Austrian into jail for an assault on a constable, the Italian campaigns of the Australia meet and the constraint army and distinguished himself also where he died. His defection from whilst fighting against the Turks. He the sect which by his writings and was early in the field during the war learly precept he had estab. did not of the Austrian Succession (1740-48), break up that sect. They remained and it was due to his efforts in the in existence in Holland for some very field that the success of Frederick the considerable them migrat.

land the sect pendents or .

pendents or Browne, Thomas (1605-82), a distinguished writer, took his degree of M.D. at Leyden University in the course of prolonged travel abroad, and finally, in 1634, settled in practice at Norwich. His claim to renown rests on his Religio Medici, pub. in 1634 though his Une Burial probabily. 1642, though his Urn Burial probably displays best the peculiar force of his died on June genius and the old-world flavour of his majestic style. Whilst civil war deleader, a believer in whole-hearted vastated the country, he was serenely measures, and to his encouragement absorbed in metaphysical speculation

on the mysteries of life.

Browne, William (1591-1643), an English poet, born at Tavistock in Browne, Robert (c.1550-1633), the founder of the Brownists. He was College, Oxford. He became tutor to seended from an ancient and well-known family. He received a good known at Corpus Christi College, totals, 1613, and the Shepherd's Pipe, Cambridge, and was for some time 1614. Several complete editions of

Watling Street.

Browne

a goblin of the most obliging kind. He was never seen, but was only known by the good deeds which he did. He usually attached himself to some farmhouse in the country, and he was only noted by the voluntary labour which he performed during the night. He would churn, or thrash the corn, or clean all the dairy utensils, compared to the brownie.

his works have been published, and ess, was born at Carlton Hall, Durham, enjoyed a short popularity. Browne, William George (1768-) of her life was spent in Herefordshire, 1813), traveller, was fired to explore at a place called Hope End. During by reading Bruce's Travels. In 1792, the greater part of her life she was after careful examination, he con under the threatened shadow of conatter careful examination, he con-under the threatened shadow of concluded that the ruins at Siwah were sumption, and frequently suffered not those of the temple of Jupiter family bereavements, circumstances Ammon. Though later he journeyed which affected her style of writing in through Syria, Asia Minor, and the no small degree. A more tangible Levant, his most important expedition (1793-96) was to Darfur, when he Robert B., the poet, whom she acquired trustworthy information as married in 1846 against the wishesto the Nile's course. He was murdered of her family. Previous to this she by banditti it is said, whilst travelling had pub. sev. attempts in literature; towards Teheran. A dry. affected in 1825 appeared the Essau on Vind. towards Teheran. A dry, affected in 1825 appeared the Essay on Mind, style spoils his Travels (1800). and other Poems. Between this date
Brownhills, in Staffordshirc, an and that of the publication of her next
urban dist. in the Lichfield parl. div.: book, The Scraphim, in 1838, she conimportant coal mines; near the tributed to the Athenaum and other Essington Canal and on the Roman periodicals; in 1846 and 1850 appeared two more vols. of Poems. the Brownian Movements, the name first of these Lady Geraldine's Court-given to a phenomenon discovered by ship, leading to her acquaintance Robert Brown in 1827. On viewing with her future husband. The marthrough a microscope a liquid such as riage proved an ideal one, and Mrs. gamboge solution, in which small B. was restored to comparative particles are seen to be in constant where the only child of the marriage motion backwards and forwards without any regularity or conversition. Guidi Windows, Italian in setting and out any regularity or conversition. Guidi Windows, Italian in setting and out any regularity or co-operation. Guidi Windows, Italian in setting and Brown suspected living matter, but sentiment. Aurora Leigh in 1856 was it has been shown by Guoy and a long 'sociological' romance, and Perrin that the phenomenon would proved a distinct departure from her fellow from the molecular structure previous work. In the Poems before of matter, being produced by molecular bombardment. This theory is fluence was plainly discernible. She strengthened by the observation that died at Florence on June 30, 1861, and the motion of smaller particles is in the next year a vol. of Last Poems greater. Brownie, in the folklore of Scotland Mrs. B.'s popularity was assured goblin of the most obliging kind, when her husband's was still problematical. Certain it is that up to the publication of The Ring and the Book she was by far the better known. Her easy style, incoherent and fatally voluble though she might be occasionally; her interest in her own time, as exemplified in the Cry of the Children: her romantic tendency corn, or clean all the darry theshis, Children, her romantic tendency or perform some equally good-natured which sometimes leads her into labour. His work was always done at hight. The country people had great buchesse May—all these combined faith in the good works of the B. and to make her peculiarly acceptable to believed in him implicitly. His retained the reading public at large. She has ward was usually a dish of cream been called the greatest Eng. poecess, ward was usually a disk of cream, been called the greatest Eng. poetess. The B. bears a strong resemblance to but her work, though musical and Robin Goodfellow in the Eng. and the metrically beautiful, is so marred by Kobold of Ger. literature, whilst some her fatal inability to understand the comparison can be made between him value of rhyme sounds, that as an and the household gods of the Roms. artist she must give place to Christina and of the domovoy. The Bs. were Rossetti. She certainly is the most often the cause of the mysterious disvoluminous poetess, and has imappearance of things, and in this pressed her character best upon her respect can be compared with the, work. Her supply of words is extradans, or Jennis, of the Arabs, and also ordinary, and she has a wonderful to the pixies of South-western Eng. practically all her other writing might Browning, Elizabeth Barrett, poet- be compressed with advantage.

we have work of such exquisite but met with decisive failure. Three beauty that it bears comparison in years later appeared Sordello, that tone, sentiment, and execution with much belittled work. Here the the greatest in our language. There author's genius for intricate phrase are many of the shorter pieces of and involved thought led to fears whose beauty much might be said. that he must fail in his work. Many Her faults are obvious: they are are the stories told of the effect its blemishes; but the jewels of her work difficulty had on well-known men of are to be ranked for ever as precious letters. But this 'story of a soul' is stones and set in the silver sea of our surely plain enough to moderate inliterature. Editions of her works are

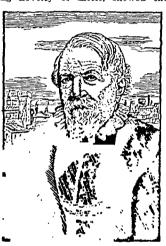
innumerable. See Life by Ingram. Browning, Oscar (b. 1837), historian, son of a merchant. He was edu-cated at Eton and King's College, Cambridge, becoming fellow and tutor of his college. Later he was for iffteen years a master at Eton, giving up this post for that of university lecturer in history at Cambridge. He took a prominent part in university movements, including those for university extension and the training of teachers; he aroused enthusiasm for the study of political science and modern political history. Among his contributions to modern history are: History of England (4 vols.); Wars of the 19th Century; History of Europe, 1814-43; Napoleon, the first Phase; Boyhood and Youth of Napoleon; Fall of Napoleon; and to Italian history: Guelphs and Ghibellines; The Age of

the Condottieri; and Dante.

Browning, Robert, poet, was born on May 7, 1812, in Camberwell. His father was an important official in a bank, but Robert never devoted himself to any profession, being first and last a man of letters. His education was not that of the ordinary young Englishman of means, but was privately obtained. During his youth he was noted for his passionate devotion to literature and music, and his intellectual promise was always considered great. Yet, while Tenny-son successfully beat down all criticism, and, perhaps, increased his renown by the acceptance of the his Laureate's crown, B. had to struggle against the storm of adverse opinion for nearly forty years before his worth was fully recognised. The essential defects of the poet, as they are generally and perhaps unjustly called, are seen in equal measure in his late and early work. He himself dismissed Pauline (1833) as interesting, but unworthy of inclusion among his later works. Paracelsus (1835) has more of beauty and of interest. Here we get urried simile which

later g critioriginal lyric form. In 1841 he at gave himself up to work.

the Sonnels from the Portuguese, tempted a drama, Strafford, intended which were addressed to her husband, for acting by his friend Macready, we have work of such exquisite but met with decisive failure. Three tellects, but the poem has been banned by the merciless contempt of those in authority for the unusual. But Bells and Pomegranates (1846). though in themselves of no outstanding novelty or merit, showed the



ROBERT BROWNING

author's lyrical genius for the first time in anything like perfection. Pippa Passes, with its charming songs, is the best of thesc. In the same year B. married Elizabeth Barrett, the poetess, and for the sake of her health, removed to Florence. The marriage proved an ideal one: ne marriage proved an ideal one; he speaks again and again of his wife in reverent, loving verse; my perfect wife, he calls her. During this period he produced only two pieces of note, Christmas Eve and Easter Day in 1850, and Men and Women in 1855, but these were infinitely better than anything he had ever done before anything he had ever done before, and, with Dramatis Persona (1864), cism of his work on the score of contain perhaps his very best work.

obscurity; but here also is the After Mrs. B.'s death, which occurred peculiarly rapid blank verse, and his in 1861, B. returned to London, and the Book, which was more than favourably received. Yet it is not great, apart from its real interest as a psychological study. It is based on an old manuscript B. read in Italy, telling of the murder of a girl-wife by her noble husband. The tale is told and retold by each one of the actors, and wonderful art is used in actors, and wonderful art is used in the differentiation of the various characters. Having at last gained attention, B. let few of the next fifteen years pass without at least one or two vols, from his pen. These included translations from the Greek, Bolaustion's Adventure and Prince Hohenstiel-Schwangau, 1871; Honenstiel-Schwangau, 1871; Fiftne at the Fair, 1872; Red-cotton Night-cap Country, 1873; Aristophanes' Apology, and the Inn Album, 1875; Pacchiarotto, and how he worked in Distemper, 1876; La Saisiaz, 1878; Dramatic Idylls, 2 vols., 1879-80; Jocoseria, 1883; Ferishtah's Fancies, 1884: Paylenings with Cartain Pacale 1884; Parleyings with Certain People of Importance, 1887; and Asolando, 1889. The greater part of these are written in the curious blank verse which he now affected, and are all marked by the blemishes which even his greatest admirers cannot deny he exhibited in his work. Yet in these appear some of his loveliest lyrics, and, indeed, it can be affirmed that Asolando, which was pub. almost on the same day on which his death took place in Italy, contains work as beautiful in form and thought as that in his Dramatis Persona of a quarter of a century earlier. Any estimation of the value of B.'s work must be made more difficult by the fact that towards the close of his life he received an adulation which was as unwise in its attitude as unsuited to his dignity. Since the formation of the Browning Society in 1881 his adherents have formed themselves into a kind of defensive and offensive alliance, ready to accept all his doings as good, and to challenge the world on his behalf. Most unwisely, they have given colour to the often reiterated charge of obscurity laid against the poet, by producing handbooks to his works, and even a cyclopædia to all B. references. Such blind devotion has defeated its own ends by making the general reader suppose that B. is 'difficult,' and so has led to comparative neglect. It cannot be too often said that B. is not obscure or difficult; his involved phrases, his mountebank delight in the grotesque and the unusual, his exasperating hurrying and crowding of ideas may bewilder, astound, and often irritate, but they are never hopelessly not to be comprehended. For a detailed study of this, the

appeared the stupendous Ring and reader is advised to obtain Mr. G. K. Chesterton's delightful and valuable book. Apart from this admitted defect, even his most biased opponents can say little, unless it be against his metrical diversions. His lyrics for form and sentiment are glorious. The Last Ride Together, Prospice, Love among the Ruins, to choose only three, are noble examples of his art. Though so much of his work bears the effect of Italy, yet he is essen-tially the Englishman in Italy, patriotic in heart, although by choice cosmopolitan. He is, again, the poet of the It. Renaissance, and to our idea has caught the very spirit of it; witness the cruel beauty of My Last Duchess, or the grotesque pathos of The Bishop Orders His Tomb, to choose only two out of many. His interest in art and music is probably a result of early inclination, and his later surroundings. In his attitude towards Nature it may be taken generally that, like Wordsworth, he gives her a pensonality, but, unlike him, considers that pensonality dis-tinct from, and usually hostile to, the But it is in his dramatic human. lyrics and monologues that he is most often at his greatest. Such pieces as The Last Ride Together, Rabbi Ben Ezra, and Holy Cross Day, will be remembered when his more ambitious works of greater length lie forgotten. Through them we see the poet himarrough them we see the poet himself, hopeful always, tolerant of others, and believing, God being in His Heaven, that the best was yet to be. There are few poets who so unconsciously disclose themselves in their works. See Lives by Chesterton, Sharp, Waugh, Orr, etc.

Browning Settlement, founded in 1895 if or the furtherance of the King-

1895 ' for the furtherance of the Kingdom of God, as it is declared in the Gospel of Jesus Christ . . . by every means available to promote the full and happy development of body, mind, and soul.' The Settlement is a centre of lively effort for improving the conditions of life in Walworth, for educating the citizens and beautifying the neighbourhood. It has founded the Beignbourhood. It has founded the Bethany Homes for the Aged at Whytelcafe. Address of Settlement: Cambridge House, 131 Camberwell Road, London, S.E. Warden (1912), Rev. Herbert Stead, M.A. Browning Society, founded in 1881 by Dr. Furnivall and Miss E. H. Hickey in appreciation of Browning and to further the study of his works

and to further the study of his works. The society no longer exists.

Brownists, see Browne, Robert. Brown-Séquard, Charles Edward (1817-94), a famous British physiologist. He was born at Mauritius. His father was an American in the naval service, and his mother a French-

woman. He took his medical degree W. of Edinburgh, chiefly known for at Paris in 1846, and returned to its shale oil-works. Pop. 6270. Mauritius intending to practise there; however, he went from there to America in 1852, and subsequently he came back to Paris. He attracted considerable attention by his lectures on the pathology of the nervous system. In 1864 he became professor of physiology at the university of Harvard, and five years later he again returned to Paris as professor of pathology in the School of Medicine there. Yet again he left Paris to return to America where in 1873 he set up in New York as a practitioner and a nerve specialist, and yet again he returned to Paris when, in 1878, he became the professor of experimental medicine in the Collège de France. He remained in this position until his death. He lectured frequently in England, and always desired to be known as a British subject. He contributed largely to the medical knowledge of the period, especially to the knowledge of the nervous system. He also wrote a number of essays and papers.

Brownson, Henry Francis, son of theological, philo-American sophical, and writer. sociological Orestes Augustus B., who died in 1876. He has pub. his father's various writings: Brownson's Works in 20 vols., and a summary of these in one vol. Other works: Brownson's Early, Middle, and Latter Life, and The

Convert.

Brownson, Orestes Augustus (1803-76), an American philosopher and theologian, was born at Stockbridge, Vermont, on Sept. 16. He was in turn a Presbyterian, a Universalist. tions which agitated his times. He lic Church; and The American Re-public: its Constitution, Tendencies, and Destiny, 1865.

Brownsville, the co. tn. of Cameron

Texas, situated on the Rio Grande, about 25 m. from its mouth, in the Gulf of Mexico. It has a riv. trade, and is the commercial centre of a rich agric, dist. In 1846 there was a notable bombardment of a small U.S. force, which had occupied the

place. Pop. 7000.

Brozzi, a tn. in Italy on the Arno,

about 4 m. from Florence: manuf. of hats of fine straw.

Bruay, a tn. in the N. of France, in the dept. of Pas-de-Calais, situated on the Lawe. B. is an important industrial tn. in a rich coal-mining dist. Brewing, sugar and glass making are also carried on.

Bruce, see ELGIN, EARLS OF Bruce, Edward (c. 1549-1611), advocate, actively upheld, in 1587, the

rights of the lords spiritual to sit in parliament. Both in 1594 and 1598 he was sent on a mission to Queen Elizabeth, the first time to suggest that she was encouraging popish conspiracy by befriending Bothwell. He accompanied King James to England on his accession, having, in 1601, by his diplomacy opened up the famous correspondence between his master and Sir Robert Cecil. Bruce, James (1730-94), Scottish explorer of Africa. He was born in Stirlingshire, and was educated at Harrow and Edinburgh University. He commenced studying for the bar. but entered the wine business on his union with the daughter of a wine merchant. The sudden death of his wife, occurring within less than a year of their marriage, led to his sub-sequent travels in Spain and Portugal. He examined some eastern MSS. in the Escurial, and the consequent enthusiasm developed into the adoption of his career as an explorer. He was selected as British consul of

Algiers, and given a commission to study the ancient remains there. In 1765 he commenced an exploration of an Independent, a Unitarian, and a the ruins of Barbary, and after an Roman Catholic. He wrote strongly examination of most of the ruins of E, and with great ferrour on all the Algeria he travelled to Tripoli and theological and philosophical questhence to Candia. During the wreck of his ship he was obliged to swim tions which agitated his times. He of his ship he was obliged to swim founded the Boston Quarterly Review, ashore. He subsequently travelled 1833, and Brownson's Quarterly Rethrough Syria, staying at Palmyra view, 1844. He also took a very active and Baalbek. He reached Alexandria interest in all the social and political in 1768, and successfully accomproblems of the day. His chief works plished a long cherished dream, the were Chorles Elwood, or The Infidel discovery of the source of the Blue Converted, 1880, a book in which he Nile in 1770. The scepticism with strongly supported the Roman Catho which his account was received in life Church and The American Res. London proceed a great disappoint. London proved a great disappointment, and he retired to his estate at Kinnaird. He recovered from his pique sufficiently to publish processing the property of publish an account of his travels in 1774, and though the expert criticism of its authenticity was then strong, the main facts have since been corroborated. See Autobiography, 1805 and

Bruce. John (1802-69), antiquarian, born in London. He ed. a great num-Broxburn, a vil. of Linlithgowshire, ber of memoirs and historical docu-6 m. S.E. of Linlithgow, and 12 m. ments for the Camden Society, whose

1813.

Yuseum.

Elucidated, 1856; and Lapidarium Septentrionale, 1875, an account of the Roman monuments in the north of England.

Bruce, Michael (1746-67), Scottish bet. He was born at Kinnesspoet. wood. Kinross-shire, and was taught, to read before he was four years old. His education was seriously hampered by his interrupted attendance at school, for he was often required to act as herdsman. His health was delicate and his manner quiet and devotional Circumstances proved sufficiently kind to allow his subse-quent enter into Edinburgh Uni-Circumstances proved versity. He accepted the charge of a school near Clackmannan later in a school near Clackmannan later in life, and wrote Lockleren in spite of broken health and accompanying depression of spirits. His first work is an Elega written in Spring. He now became very ill, and died in advanced consumption. John Logan is alleged to have stolen many of his poems.

Bruce, Robert (1274-1329), the national hero of Scotland. On the death of his father in 1304, he became sixth lord of Annandae. At the beginning of his career he sun-

the beginning of his career he supported Edward L, hoping, doubtless, to secure his father's accession to the Scottish throne. Thus as Earl of Carrick, he swore fealty to the Eng. monarch at Berwick, and in 1297 re-

treasurer he was, and for the Ashmo-lambitious projects, was an important lean and Parker Societies. In 1861 step in his career. For of all the he was appointed by the Society of clergy. Lamberton had been the Antiquaries to be curator of Soanes most loyal supporter of Wallace, and was therefore, after his meeting with Museum.

Bruce, John Collingwood (1805-92),
an English antiquary, born at Newcastle, and graduated at Glasgow in ment. But the turning point in B.'s 1826. After having spent some years career was the murder of the Red in training for the Presbyterian Comyn, in 1396, on the high altar of ministry, he became a teacher, in the church of Friars Minor John, which profession he remained till Dumfries. B. had probably made 1863. His publications include The some compact with Comyn, who was Roman Wall. 1851, to which was Baliol's nephew, as to their respective added in 1863 a Handbook to the claims to the throne. It is certain at Roman Wall. The Bayeux Tapestry least, that when they were together Elucidated. 1856 is and Landarium



STATUE OF ERUCE AT STIRLING

defeat, near the head of Loch Tay, at the hands of the Comyn's uncle, Lord of Lorn. Leaving his queen at found many references to this story. Kildrummie Castle, Aberdeenshire, Such was the end of the Scottish Kildrummie Castle, Aberdeensbire, he was obliged to lead a wanderer's national champion, who was beloved life in the W. Highlands, until he and respected by his people as was managed to escape to the Is. of Rathlin (off Antrim, Ireland). Many are the stories, which Barbour col- lawgiver and administrator was not lected from the people themselves, of inferior to his military genius. Be-the hairbreadth escapes of B. and of sides providing equal justice for rich his valour and calm submission and poor, reforming the abuses of the throughout all the vicissitudes of fedal laws, and procuring a settlement of the succession from the home gave him up for dead, and home gave him up for dead, and bedward proceeded with his work visions for the defence of the realm; of vengeance. The castle of Kilter and the grant of the succession from the castle, he made many wise provisions for the defence of the realm; of vengeance. The castle of Kilter arming of the succession from the castles, he made many wise provisions for the defence of the realm; of vengeance, the arming of able-bodied were slain, and the queen was ruth. were slain, and the queen was ruthlessly taken from the sanctuary of St. Duthac, at Tain. B.'s lands were confiscated and he and his followers were excommunicated. But B.'s days of headshimed. of hardship and reverse were nearly over. Early in 1307 he landed at Carrick, and though he was forced for a time to take refuge in the hills of Ayrshire, he rallied his forces, and at Loudon Hill subdued the English under the Earl of Pembroke. final success was assured by the death, in 1307, of his formidable adversary, King Edward. Edward II. so effec-tually wasted time over the funeral and the fascinations of court life, that by 1308 B. was in possession of all the great castles, with the exception of Stirling. And this stronghold, too, fell into his hands after his memorable defeat of the English at Bannockburn (1314). His superior generalship had deprived the enemy of their huge numerical advantage. It was an for never epoch-making victory, for never again did an Eng. monarch conquer Scotland. In 1318 B. captured Berwick, which was henceforth a Scottish, instead of an Eng., frontier tn. On the accession of Edward III. the Scots made wide incursions into the northern counties, but the treaty of Northampton (1328) finally closed hostilities. By its chief clause 'Scotland shall remain to Robert, King of Scots and his heirs, free and un-divided from England, without any subjection, servitude, claim, or demand whatsoever.' The fighting days of B. were now over. The last two years of his life were passed at Cardross Castle, on the Firth of Clyde. He was a victim, alas, to the ravages of leprosy, which he had contracted during his campaigns. On his death his heart was extracted, embalmed,

commander-in-chief of the Eng. army, salem, but he died whilst fighting in Methven wood, and was compelled the seek refuge in the moors of Athole.

Two months later he suffered a seek refuge in the more than the moors of the seek refuge in the more than finally deposited in the monastery of Melrose, whilst B.'s body was buried in the Abbey Church, Dunfermline. In Sir Walter Scott's poems will be ever Pericles by the Greeks, or Scipio by the Romans. His distinction as ment of the succession from the estates, he made many wise pro-visions for the defence of the realm; the garrisoning of towns and border castles, the arming of able-bodied men, etc. Nor did he neglect com merce. The constant encouragement he gave to shipbuilding suggests that he foresaw its future importance to his country.
Bruce, William Spiers (b. 1867), a

Scottish explorer and geographer. 1892 he went out as naturalist of the Balæna, one of a little fleet of four ships bound for the Antarctic and the adjacent seas. This expedition went out chiefly in the interests of commerce—to look for the valuable Greenland whale. But the Royal Society, the March 1982 of the Royal Society, the March 1982 of 198

Society, the the fleet wi and appoin the work of There had t Antarctic si

1842, and B. did valuable work in widening the field of scientific diswhitehing the field of Scientific us-covery, and especially in pointing out what directions future effort should take. In 1902 he was the leader of an expedition of which he has written a report: The Scottish National Ant-arctic Expedition—Scientific Results of the Voyage of the S.Y. 'Scotia' during the Years years. In 1911 he during the Years 1902-4. In 1911 he issued Polar Exploration.

Brucea is a genus of plants of the Simarubaceæ, named in honour of James Bruce, the traveller in Abyssinia. B. antidysenterica is a native of Abyssinia and is said to be a tonic and an astringent; the leaves and seeds of B. Sumatrana are intensely bitter and possess the same medicinal properties.

Bruch, Max, musical composer, born at Kolu, on Jan. 6, 1838. He was early taught the rudiments of music by his mother, and showed at a decidedly early age a considerable genius for the subject. In 1853 he was vising most of the large derman cus., W. of Annier of Tall. The Cisterian and especially those which were monastery is now used as barracks, famous for music. He subsequently Pop. (1900) 3929. 4. A tn. in Switzerbecame musical director at Coblenz, land, see Brugg. and afterwards went to live in Berlin, previously visited it. and having been offered the conductorship of the from the town. Pop. 2000. Stern Cheval Union. Two years later he became conductor of the Liverpool

tentiary organised on the lines of the town. Pennsylvania system. Pop. 14,000. Bri

coleopterous family Bruchidæ.

in ' roi

out is less powerful than strychnine.

Brucine (C₂.H₂N₂O₄), a vegetable articles to a great number of magalkaloid found in company with strychnine in nux vomica and false tries, both Russian and German.

Brückner, Anton (1824-96), Austrian organist and composer. He was the was first isolated in 1819 by Pelletier and Caventon. B. is a tertiary base closely allied with strychnine, but is more soluble in alcohol and water, is kapelle, in Vienna, where he was also less bitter, and has a much less poison a professor at the conservatorium. ous effect on the system. The anhy- He is noted for his wonderful exdrous alkaloid melts at 178°. The temporisations. B. played in Paris crystaline form is prismatic and contains ordinarily four molecules of positions his nine symphonics are the water. It turns a bright red colour most important. with nitric acid which yields nitroderivatives, and at the same time acts as an oxidising agent.

Brueys, David Augustin de (1640-1723), a Fr. theologian and dramatic as an oxidising agent.

Brueys, Barvi, B. early abandoned his

enabled to study at Frankfort under tury, and has a fine castle. Pop. the most brilliant teachers of the day, 5000. 2. A town in Upper Styria. Pon. and afterwards became a music Austria, near the confluence of the teacher in his native city. He pro- Mur and Mürz, 108 m. S.W. of Vienna duced his first opera in 1858. After by rail. Pop. 6000. 3. A market 1861 he made an extensive tour, th. in Bavaria, on the Regnitz, 15 m. visiting most of the large German tns., W. of Munich by rail. The Cistercian

Brückenau, a fashionable wateringwhere he produced another of his place of Lower Franconia, Bavaria, famous operas. In 1878 he came to 36 m. N.W. of Würzburg, with settle for a time in England, having mineral springs pleasantly situated in the valley of the Sinn, about 2 m.

Brucker, Johann Jakob (1696-1770), Ger. historian of philosophy. (1696-Philharmonic. In 1893 he was made; He was a native of Augsburg, and was direct of the Hochschule and returned educated at Jena University, where to Berlin. He received the honorary he graduated in 1718. In 1723 he degree of Mus. Doc. from Cambridge became parish minister of Kaufbeuruniversity in 1893. His chief productions are Scherz, List, and Rache, a member of the Academy of Sciences 1858; Lordei, 1863; Frilhjof, 1864; at Berlin. His chief work is Historia Critica Philosophia, 1742-44, which chief work is Historia immediate success. His railway centre on the Saalbach, 12 other works, now little known, include m. N.E. of Karlsruhe, in the grand-Otium Vindelicum, 1731, and Erste duchy of Baden. It has a castle of Anfangsrunde de Philosophischer some historical interest, and a peni-Geschichte, 1751. He died in his native

ennsylvania system. Pop. 14,000.

Bruchus is the typical genus of the Russian historian, b. at St. Petersburg. He was intended for commercial life, males denoit their cars in the cond. females deposit their eggs in the seed, but renouncing this, he became a cases of leguminous plants, and the student first at Heidelberg, then at matured larva feeds on the seeds, and Jéna, then at Berlin. He was apmay thus do much damage. B. pisi pointed to the chair of history at St. is a native of Britain which devours! Petersburg, Odessa, and Dorpat sucpeas, B. fabea beans, and B. granarius cessively. B. wrote in Russian and in vetches and beans.

[Ger. He is known chiefly by his very Brucia, or Brucine, is a vegetable important works on the history of alkali which is found with strychnine civilisation. His Kullurhistorische

was pub. in 1878; this was by a History of Russia in

Ignatius, in the wood of S. Colubrina Possoschkor; Peter der Grosse; Kalheand the bark of S. tienle. It acts on rine die Zweile: and in 1882 Ratheathe human system of S. tienle. rine die Zweile; and in 1883 Beiträge zur Kulturgeschichte Russlands and Land und Folk. B. contributed

Bruck: 1. A small tn. of Lower career as a lawyer, and gave himself Austria, on the Leitha, 24 m. S.E. of up to theological controversy. At-Vienna. It dates from the 3rd centempting to refute Bossuet, he was

Comédie-Française, B. soon began to write plays himself, generally in collaboration with Palaprat, so as to avoid publishing in his own name. He gained his reputation chiefly as the author of Le Grondeur, Sol toujours Sot, and L'Avocat Patelin. This last comedy gave rise to the adjective patelin applied to a person who tries to gain his ends by flattery and fine words.

Bruges (Dutch, Brügge, or Brug-gen), the city of bridges, cap. of the prov. of W. Flanders, Belgium, situated about 50 m. from Brussels, at the junction of sev. important railways and canals. It is situated in lat. 51° 12′, long. 3° 13′ E. The town still keeps its medieval appearance to a very great extent, and the effect of this is added to by the retention of its old city walls, and its mediæval citadel. It is one of the most flourishing of all Belgian cities. It owes its name to the number of bridges which the tn. contains, and is remarkable for the antiquity and grandeur of its old Gothic buildings. In particular two of its Gothic buildings, both of which date back to the 14th century, may be mentioned, the cathedral of St. Sauveur and the church of Notre Dame. The cathedral still has a magnificent appearance, but was much injured in the fire of the early part of the 19th century, and contains a number of interesting and valuable pictures. The church of Notre Dame contains the tomb of Charles the Bold and of his daughter Mary of Burgundy, and has also a collection of marble statues, one of which is the Market Mary of the status o by Michael Angelo. Amongst other buildings of interest which may be mentioned are: the Halle with a Gothic beliry and the most magnificent chimes in Europe: the Palace of Justice, and the hôtel-de-ville. The chief manuf. of the tn. is lace, which gives employment to a very great number of people. Other manufs. are number of people. Other manus, are linen, woollen and cotton, tobacco and soap. By means of its canal communications it can trade with a number of the parts of Europe, and in particular mention may be made of the ship canal to Zeebrugge, made of the ship canal to zeeprugge, which has opened up and developed the trade with Hull. The town is increasing very rapidly both in prosperity and population. The history is also interesting. It of the town is also interesting. It sculpture of Peter Bischer, Ghiberti, dates probably from before the 7th Count Baldwin of the Iron Arm, He has also left a fine series of who made it his chief residence. By mythological subjects.

himself converted by Bossuet from the 12th century it was recognised Protestantism to Catholicism, beas the most important town in, and came a priest, and wrote now chiefly the cap. of, Flanders, and it was with the object of converting Protest bere that the various counts were protants. An ardent frequenter of the claimed. During the 13th and 14th claimed. During the 13th and 14th centuries B. claimed equal place with Ghent, and was the recognised centre of the Hanseatic League in Middle-Northern Europe. Its commerce was developed along wise lines, and it speedily assumed and for some time kept the premier position amongst the trading tns. of Europe. The order of the Golden Fleece was instituted here by Philip the Good in 1430. In the 15th century it rose up in revolt against the Duke Maximilian, and the measures of repression which were adopted gave the first severe blow to the trade of the city. Its pop. at this time probably exceeded 200.000. The decline begun by the revolt against the ducal power, and by the repression employed to keep that spirit down, was completed by the persecution of Alva and Philip II. Many of the traders and merchants fled the town, and its prosperity rapidly de-clined. It was captured by the Fr. in 1794, and became part of the United Netherlands in 1815. Later, in 1830, it became a part of the kingdom of Belgium. The pop. at the present time is about 54,000.

Bruges, Roger van, or Rogier van der Weyden (1400-64), a Flemish painter, born at Tournay, and sometimes said to have been a pupil of John van Eyck. About 1436 he was appointed town-painter to the municipality of Brussels. A great many paintings of religious subjects have been attributed to him, and some are exhibited in galleries in Germany and depressing the second of the se elsewhere which are usually accepted

as his work.

Brugg, or Bruck, a tn. in the canton of Aargau, Switzerland, on the Aar 10 m. N.E. of Aargau. It was the early home of the house of Hapsburg, and several members of the Austrian royal family lie buried at what was formerly the abbey of Königsfelden, adjacent to the tn. B. was the bp. of so many theologians that at the

Reformation it became known as the town of the prophets.

Brugger, Friedrich (1815-70), a Ger. sculptor, born in München. He studied for two years in Italy, 1841-43, and on his return received from King Ludwig I. a commission for a number of marble busts for the Ruhmeshalle, or Temple of Fame, and a series of bronze statues for München and other towns. He produced models of the sculpture of Peter Bischer, Ghiberti,

the larger group Cytinaceæ. There are of blood from them into neighbouring natives of the Malay Archipelago, and they are all devoid of chlorophyll and controlling the colour of the injury. Followers, and have ambisorangiate flowers.

Brugsch, Heinrich Karl, an eminent Egyptologist, was the son of a cavalry officer, and was born in the and tissues. In severe cases the barracks at Berlin on Feb. 18, 1827. The patronage of Frederick William IV. enabled him to visit the prin. museums of Europe, and he first went to Egyptin 1853, being sent there by the Prussian gov. He there made the friendship of Mariette, the Fr. archæsions at Memphis. He was for some time professor of Oriental languages at Gottingen, but afterwards (1870) became director of the school of Egyptology at Cairo. He was event was event after the was torned the first went and to be came director of the school of Egyptology at Cairo. He was event was event after the was torned and the man time professor of Oriental languages in gottingen, but afterwards (1870) became director of the school of Egyptology at Cairo. He was event was event after the school of the professor of Oriental languages ally forced to leave that post by the school of the egyptology at Cairo. He was eventu-laffected with constitutional diseases ally forced to leave that post by the such as gout or rhounatism, it is Europeans who controlled the school, generally found that their particular and thereafter he lived for the most disease attacks most seriously any part in Germany. He died in 1894, part that has been bruised seriously Among his chief works were Geo- at any time. It is often necessary to graphische Insciriften ältägyptischer know whether a bruise has been in-Denkmäler, 1857.

Egyptens unter der Brühl, a tn. of R. S.W. of Cologne. on a spur of the Eife

Bruises, injuries in which there ment consists in promoting circularity and the skin nor tion in the part for the purpose of the consists of the purpose of the purpo body is str by a blow or pinched. They accompanied by discoloration of

affected part and generally so swelling. The discoloration deper both on the nature of the part struck taken to a surgeon as soon as possible,

Brugmansia, or Datura: 1. A genus and the condition of the person, soft of Solanacee which is sometimes cul- parts are more affected than others, tivated in Britain. Datura arborea is the lax tissues of the exclids being one such species, and D. Stramonium especially liable, and fat people more is the thorn-apple. 2. A parasitic plant than thin. The discoloration is prowhich belongs to the Rafflesiaceæ, or duced by the rupture of small blood-the larger group Cytinaceæ. There are vessels below the skin and the passage only three species, all of which are of blood from them into neighbouring

before or after death, there period (about two hours) ath in which a bruise can be although less seriously than

Those inflicted after death Brühl, Heinrich, Count von, chief can be distinguished from others by minister and favourite of Frederick the fact that they are not generally Augustus III.) (otherwise known as accompanied by swelling, and an in-Augustus III.), King of Poland and cision fails to discover much coagu-Elector of Saxony, born at Weissen-lated blood. The treatment of a fels on Aug. 13, 1700. Beginning life bruise will depend upon its nature as a page in the service of the Duchess and the time which has clapsed since Elizabeth of Saxe-Weissenfels, he beit was obtained. For those which are came Prime Minister to Augustus II. not severe or dangerous it will conin 1746, and aided and abetted that sist in preventing the discoloration, monarch in all his extravagant ways. This can be done by applying a uniHe played fast and loose with the form pressure to the injured part for finances of the country to such an a considerable time. Thus a cold extent that when the Seven Years' compress helps to stop the hemory was proke out. Augustus could only page from the blood ressels and at War broke out, Augustus could only rhage from the blood-vessels and at send a small force to meet Frederick the same time favours coagulation, of Prussia, and his army was hope- the cold raw beetsteak of the pugilist lessly beaten by Frederick at Pirna, ibeing a remedy of this type. During B. died on Oct. 28, 1763, three weeks this process the part treated should after his royal master. His library of the coloration is in evidence, the bruise 62,000 vols. now forms part of the Royal Library at Dresden.

> ım, id. ъe

unpleasant complications may his reputation by his set in.

Brülov, or Brylov, Constantin Karl Pavlovitch (1799-1853), a Russian painter, born at St. Petersburg, and died at Marciano, near Rome. He began his studies at the Academy of St. Petersburg, under Ivanov, and continued them for six years in Italy, 1819-25. At Rome he made copies from Raphael, by order of the Czar, the most notable being 'L'Ecole d'Athènes.' On his return to Russia, he was appointed painter to the court, and in 1836 professor at the St. Peterburg Academy. He travelled extensively in Greece, Turkey, and other Oriental countries. His work included genre and sacred painting, oil por-traits, and large historical pieces. Among his most noteworthy pictures are' Le dernier jour de Pompéi; 'La mort d'Înez de Castro; 'Le siège de la ville de Pskov; 'La mort de Laocoon; 'Le baiser de Judas; ' 'Portrait de la grande-duchesse Olga Nikolajevna;' and 'L'invasion de Rome par Genseric.

Brumaire, the name (meaning ' foggy month ') of the second month of the Republican calendar, estab. in France in 1793. The eighteenth B. (of the year VIII.), corresponding with Nov. 9, 1799, of the Gregorian calendar, was the day on which Napoleon overthrew the Directory

Addition overlines the Directory and replaced it by the Consulate.

Brumath, or Brumpt, a tn. of Lower Alsace, on the Zorn, 10 m. N. of Strassburg. It has mineral springs, and minor industries are carried on.

Pop. 5550.

was born in London. He was educated cane dà la mano di sposa al Conte G. at Eton and Oriel College

and a few years later, upon a fortune of £30,000, he ga

elegant and precise, was never ex-travagant. For many years he en-joyed the friendship of the Prince of Wales (afterwards George IV.), but they quarrelled in 1813, and soon afterwards gambling losses drove him to France. He lived at Calais for fourteen years, and then (1830) was appointed consul at Caen. A few appointed consul at Caen. A few years later he sank into imbecility, and died in the asylum of Bon Sauveur, Caen.

Brummen, in the Netherlands. A tn. near Zutphen. The Dutch state railway here crosses the R. Yesel. Villas of wealthy Dutch merchants.

Brumoy, Pierre (1688-1742), French poet and writer, French poet and writer, born at Rouen; educated by the Jesuits. He wrote a number of poems, but secured sion of it.

Théatre des Grecs, published in 1730. consists of prose translations into the French tongue of the Greek dramatists, and contains B.'s notes and analysis of the various pieces.

Brun, Vigée le. Sce LEBRUN. Brun, Charles le, or Lebrun (1619-

'L'Ecole mental in the foundation of the Academy of Painting, and rapidly rising in reputation he became court painter to Louis XIV. and the leader of the French arts, over which he obtained great control for many years. He was the first director of the Gobelins tapestry manufactory, and did a great deal of work at the palace at Versailles, but gradually grew out of favour with the king, and was ulti-mately superseded by Mignard. Examples of his work are to be found in nearly all the principal galleries.

Brun, Rudolf, a Swiss magistrate, born in 1360. He headed an insurrec-tion in his native tn. of Zwich, had himself proclaimed dictator, and prevailed upon the people to establish a new constitution. These events led to his becoming the first burgomaster of Zurich. After a long struggle with the deposed magistrates the emperor Louis of Bayaria persuaded him to receive a pension and a sum of money in exchange for which he made peace.

Brunamonti, Marie Alinda, Bonacci, a contemporary It. poetess. Among her writings are: Beatrice Portinari e l'idealità della donna nei canti d'amore in Italia, 1891; Dis-corsi d'Arte; Nuovi Canti; Quando in

is the name of a place, ich is not now known. up to the pleasures of s
London. He attained notoriety for list taste in dress, though that, while also located in Lincoln, Yorkshire, and precise, was never expendent and precise. Was never expendent and precise. brated as having been the spot where Athelstan and Eadmund his brother won a great victory in 937 over the Eng. Danes, joined by Anlaf of Den-mark and Constantine of Scotland. As the invaders entered the country by the Humber and marched southward, the battle is most likely to have been fought in Lincolnshire. After Athelstan had defeated the Danes and their allies at B., he annexed Northumbria, and thus became the first monarch of England to reign with undisputed authority. A stirring ballad was composed in commemoration of the victory, and is at found in the Anglo-Saxon Chronicle. Lord Tennyson has given a fine yereducated at the Jesuit's College. Paris. As military commissary he participated in the Seven Years' War. He recommenced his studies at the age of thirty. He ed. many editions of the Greek classics with a freedom that alarmed the canons of editions then in vogue. He boldly altered the text, where a change would mean simplification, without any authority from the MSS. He took part in the Revolution, was imprisoned at Be-sancon, and died after the sale of his books caused by the suspension of his income.

Brundusium, see BRINDISI.

Anne Guillaume Marie Brune, His friendship with Danton was funds but his plans were strictly adbegun here and also his alliance with Lacobins. He shared the military exploits of the 13th Vendémiaire as a brigadier-general. He served exceted by him in 1841-5, had been under Napoleon in 1796, and two superseded by the Charing Cross raityears later commanded the Fr. army way bridge in 1862. From 1833 to in Switzerland. Against the Anglo-Paris, and later became a journalist. m switzerland. Against the Anglo-1846 he was the chief engineer of the Russian attack on Amsterdam he won Great Western Polling and accomplete victory. On Napoleon's many trip adoption of the imperial title he adoption of the imperial title he was struction ' " appointed marshal in 1804. The his work Hundred Days again found him en- also construct gaged in service after a period of in- which made n action. His death was caused by the Royalists, who murdered him in Aug.

Brunehaut (c. 532-613), see BRUN-

HILDA (2).

Brunei, a Mohammedan state in Borneo, under the administration, has lost most of its ter. owing to the an Hon. D.C.L. of Oxford. frequent cession of land to the British Brunel, Sir Marc Isamb frequent cession of land to the British N.W. Borneo Company and to SaraN.W. Borneo Company and to Sara1849), inventor and engineer, was wak. The sultan at present receives born at Hacqueville in Normandy, a pension from the British, and his He was originally intended for the two chief ministers do so likewise, church, but showed a natural ability. The cap, of the state, and the only city with the slightest claims to importance, is the city of B., which has navy he served for some six years, a pop, of roughly 15,000. The intended to the latter of the la

Brunck, Richard François Philippe and the women are particularly clever (1729-1803), French classical scholar, at weaving gold embroidered cloth. He was born at Strassburg, and The exports and imports are in-educated at the Jesuit's College, finitesimal. The state has an interesting and somewhat varied history, but its chief importance now lies in the fact that it is abundantly supplied with coal seams which are leased to the government of Sarawak-

Brunel, Isambard Kingdom (1806-59), son of the equally famous en-gineer, Sir M. L. B., was born at Portsmouth. At a very early age he showed the possession of those qualities which are essential to a good engineer and draughtsman, and he was sent at the age of fourteen to the school of Henri Quatre in Paris to study. Three years later he entered his father's office, and in 1831 his plans for the Clifton Sus-(1763-1815). French marshal, born pension Bridge were adopted, and he at Brives-la-Gaillarde, Corrèze. He was put in charge of the work. The commenced studying for law in bridge, however, was not completed until after his death, owing to lack of

also constructed the first steamboat which made regular voyages between-America and this country; this was the Great Western, which he constructed for the railway company of that name. He was also the designer of the Great Britain: his greatest achievement was the construction of since 1906, of a British resident; since the Great Eastern, but he only lived 1888 it has been under British protections enough to see her get affoat, and tion. Originally of some considerable did not witness the beginning of her size and dignity, it has during the last great voyages. The Great Eastern entury lost a great amount of ter, started on its first voyage on Sept. 7. and can no longer be regarded as 1859, and on Sept. 15 the great a state of importance. It is now a lengineer died. In addition to his rail-small triangular piece of ter, in the way and ocean steam navigation work N.W. of Borneo, with frontiers in he also helped in the construction of Sarawak, and with a strip of coast many docks throughout the country, line roughly about 80 m. long. It has His skill and ability were generally an area of about 17,000 sq. m., and recognised throughout England, and a pop. of not more than 30,000. It he was made a fellow of the R.S., and has lost most of its ter owing to the an Hon D.C.L. of Orders.

Brunel, Sir Marc Isambard (1769-

beautiful brass work is done there in 1710 to be the the transfer of

engineer. He became chief engineer cism—caused an immense sensation for New York, and erected a new throughout France The first hint of arsenal for the city, fitting it with this change was given in a speech at some ingenious machinery for boring. Besançon in 1891, and B. made his of his own invention. He sailed for famous declaration of faith in 1899. experiments in steam navigation, and advised the gov. to adopt steam tugs for taking warships out to sea, but in 1514, after some actual experiments, the gov. refused to adopt the idea. In 1821 he became a bankrupt owing to his financial mismanagement and also owing to the fire which destroyed his sawmills at Battersea. His chief claim to fame—and he has many-

Brunelleschi, Filippo (1379-1446), pays a fine tribute to George Eliot. an Italian architect, born at Florence. To him a revival of the Roman style is to be attributed. His natural by:

aptitude for mechanism altered his Gun father's intention of arranging for him . Sier to follow the profession of notary, and pas he was accordingly apprenticed to a har goldsmith, where he quickly mastered North all that was to be learnt. In 1841 he daughter of Odin, who, having dis-

a teacher. He began to write for the Revue des Deux Mondes in 1875, and became its editor in 1893. From 1886 Revue des Deux Mondes in 1875, and breadth escapes from her enemies, she became its editor in 1893. From 1886 to 1895 he was professor of the Fr. language at the Ecole Normale; during this time, too, he lectured with great brilliance, chiefly on Fr. literatral brilliance, chiefly on Fr. literature. An event in B.'s life—his conversion from materialism to Catholi-

England in 1799, and submitted some; after a private interview with the plans for making ships' blocks, which pope. His article, 'La science et la were ultimately accepted by the gov. Religion,' in the Revue des Deux His machinery saved the gov. a con-Mondes, roused against him the siderable amount of money in the first wrath of almost the whole of intelyear's working, and he was appointed 'lectual France, and caused a sensation to carry out many other plans for the which did not die down for years. In gor, at various dockyards. He made it B. proclaimed 'La banqueroute de la science; he insinuated that science had failed to keep certain of her promises, and maintained that Christianity was still, and must be, a force to be reckoned with. To refute some unjust criticisms he wrote another article in honour of science. But for ten years onwards he made speeches and pub. writings (such as Le Besoin de Croîre, and Le Molif d'espérer) to is the part which he played in the defend his new faith. Among B.'s construction of the tunnel under the most important works are: L'Evoluther it broke through the roof twice, Litterdure, Eludes Critiques sur once in 1827 and again in 1828. The l'Histoire de la Litterdure Française. once in 1827 and again in 1828. The l'Histoire de la Litterature Française, work was discontinued in the latter Essais sur la Litterature Contempear, and was not again taken up until poraine, L'Evolution de la Poésie 1835, the tunnel being finally opened Lyrique en France au 19me siècle, and in 1843. Together with his son, I. K. Le Roman Naturaliste. In this last Brunel, he made many experiments. work hewages war against the French In 1841 he had been knighted, and in naturalist writers, especially those of 1829 had received the Order of the the school of Zola; he is sympathetic Lexion of Honour.

Brunelleshi Eilen (1820 1145)

all that was to be learnt. In 1841 he cattered a competition for designing obeyed the orders of the god, is east the gates of the San Giovanni bapter of obeyed the orders of the god, is cast the gates of the San Giovanni bapter of the god, is cast the gates of the San Giovanni bapter of the god, is cast into a deep sleep on the rock of tistry. He won merit, though no Hendarfiell and guarded by a wall of award. He later applied the laws of fire. Here she must remain until a perspective to his works, and obtained the contract to complete the church of Santa Maria del Fiore, in Florence. This is his greatest masterpiece, while goths. The daughter of the varior ward of fire. Here she must remain until a perspective to his works, and obtained the contract to complete the church of Santa Maria del Fiore, in Florence, while goths. The daughter of the pod, is cast the deep on the rock of fire. Here she must remain until a hero, daring all for her sake, penetwork wall and frees the 'warrior woman.' 2. A princess of the Visigothic king, Athanagild, she was married to Estwert in the historia, was murdered by him, and Sigbert tried to avenge his sister-in-law. It was not until after stryed in the Franco-Ger. War, then led for some years a precarious life as a transfer of the varior woman.' 2. A princess of the Visigothic king, Athanagild, she was married to the King of Austrasia. Her sister town, and signer the varior woman.' 2. A princess of the Visigothic king, Athanagild, she was married to Calswintha, having been married to the King of Neustria, was murdered by him and Sigbert tried to avenge his sister-in-law. It was not until after the varior woman.' 2. A princess of the Visigothic king, Athanagild, she was married to Calswintha, having been married to the King of Neustria, was murdered by him and Sigbert tried to avenge his sister-in-law. It was not until after the varior was a precarious life as a princes of the Visigothic king. Athanagild and frees the varior fire. Frankish kingdoms. After sev. hairBruniaceæ is an order of dicotyle-paper, tobacco, hardware, and sugardonous plants which are natives of There are engineering factories, oil The species consist of heath-like hermaphrodite, arranged in whorls of five, with either two or three united carpels containing several ovules, or

with a single carpel containing one ovule. The fruit is a capsule or a nut. Bruni, Leonardo (1369-1444), a celebrated Italian writer, born at Arezzo, from which place he obtained the name of Leonardo Aretino by for ten years under four consecutive popes. He retired to Florence where he obtained the influence of the Medicean family, and through them which he held until his death. Drawn to the study of the classics in his Plutarch, Aristotle, and Plato. His Historiarum Florentinarum Libri XII. . . ., published in 1610, was the result of long and thorough historical research, and many others: Epistolæ Familiares, 1472; and Commentarius Rerum suo Tempore Gestarum, 1476.

Brunig Pass is a pass over the Swiss Alps. joining Meiringen and Lucerne. It is about 3400 ft. at its highest point. In 1889 a railway was opened up.

Brunings, Christian (1736-1805), a celebrated hydraulic engineer, born at Neckerau, who was given the control of the dikes in Holland, and in this capacity carried out several portant improvements. He is im-He is best portant improvements. He is best known by an instrument, bearing his own name, which he invented, and which enables the rapidity of a stream to be gauged.

Brünn, the cap. of Moravia be-It is situated longing to Austria. Zwittawa between the Rs. Schwarzawa, at the foot of the Spielberg. It is 70 m. N.E. from Vienna, and 115 S.W. by W. from Prague by rail. It is the centre of commerce and manus... which fact has earned for it the name of the 'Austrian Man-chester.' The chief manus. are woollen cloth, silk and cotton fabrics, gloves,

S. Africa, and rarely occur in Europe. works, breweries, flour mills, etc. There is good railway communication shrubs, which are abundant at the between B., Vienna, and other im-Cape of Good Hope. The flowers are portant cities, five lines touching the portant cities, five lines touching the tn. The old part of the city was once strongly fortified, and it stoutly held out against sev. sieges. It was chosen by Napoleon as his headquarters before and after the battle of Austerlitz. All the fortifications have now been converted into beautiful promenades. Many suburbs have of late years grown up around the old part, which he is generally known. In 1405 and there are numerous fine build-he obtained the appointment of ings, which include a cathedral and papal secretary, and held the position sev. churches, a theological college, a gymnasium, an orphanage, theatre, lunatic asylum, and many hospitals. There is also the national museum for Moravia and Silesia. Behind the city. on the hills, is the old castle of Spielberg, which is famous for having been to the study of the classics in his the prison where Silvio Pellico was youth, he did much to advance Greek kept for eight years. There is an Youth, he did much to auvance the learning in his own country, parti-immensepark, known as the Augalton, cularly by literal translations into which was given by the Emperor cularly by literal translations into which was given by the Emperor cularly by literal translations, Joseph II., and there are many literal translations. smaller parks, and public gardens. The educational institutions are very good; there are technical, continuathorough tion, elementary, and kindergarten was the schools. The pop. consists of Germans means of securing to him the rights and Czechs, and the religion is princiof citizenship. He also wrote original pally Roman Catholicism, with about works on the lives of Dante and 7.5 per cent. Jews and 1.5 per cent. Petrarch, and the following, among Protestants. Pop. 110,000.

Brunne, Robert of, see MANNING.

ROBERT.

empore Gestarum, 1476.

Brunnen is a lake port, and a Bruni Island is situated off the S.E. beautiful vil. of Schwyz, Switzerland. of Tasmania. It is 32 m. long, from It is situated near the mouth of the 11 to 10 m. broad, and has an area of Muotta, on the Lake of Lucerne, 160 sq. m. Coal mining is the chief about 6 m. S.E. from Lucerne. It was industry.

renewed their league.

Brunner, Heinrich (b. 1840), a Ger. juris-consult and historian, born at Wels. He studied at Vienna, Göttingen, and Berlin, taught Ger. law at Vienna, was appointed professor at the university of Lemberg in 1866, at Prague in 1870, and afterwards at Strasburg. In 1872 he became professor of Ger. civil, commercial. and maritime law at Berlin. B. has done most valuable research work in the history of Fr. law, studying minutely the early laws and institutions of the peoples of Western Europe, especially the Franks. He is the leading authority on modern Ger. law. His chief works are: Die Entstehung der Schwurgericht (dealing with the Eng. and the Fr. jury systems), Deutsche Rechtsgeschichte, and contributions to Monumenta Germaniæ historica.

Brunnow, Ernst Philipp, Count von (1797-1875), a Russian diplomatist, born at Dresden. After studying at the university of Leipzig, he entered the diplomatic service in 1818. After attending several congresses of im-portance, he was made ambassador to London in 1840. He represented Russia in Frankfort after the outbreak of the Crimean War, and in 1856 was present at the Congress of Paris. In 1858 he returned to London. retiring to Darmstadt in 1874.

Bruno, Giordano (c. 1548-1600), an Italian philosopher, born at Nola, in the kingdom of Naples. At an early age he became a monk of Dominican Order, but was obliged to run away from the convent on account of the heretical views he had expressed. Seeking refuge he fled to Geneva, where he remained for two years, but was again expelled by reason of his scepticism, and after journeyings to a number of towns and universities, he secured a post as lecturer in Toulouse and, later, Paris. While in Paris he attracted vigorous opposition by his attacks on the philosophy of Aristotle, and leaving Paris in 1583, under the protection of the French ambassador, he reached London, and became acquainted with Sir Philip Sidney. He also lectured at Oxford, but did not, however, stay long in England as he was successful in securing a pro-fessorship at Wittemberg, from which in turn he was driven to Helmstadt, and from thence to Frankfort. Re-turning to Italy in 1592, he proclaimed his opinions in Padua and Venice, and was arrested by the Inquisition, sent to Rome and tried for heresy. Being convicted and refusing to re-cant, he was imprisoned and ultimately burnt at the stake, exclaiming that his sentence would cause greater fear to his judges than to himself. His philosophy was in form pantheistic, including the Copernican astronomy and that soul or spirit can only exist in matter; that all creation is one life composed of many living members which in their ultimate spiritual and corporeal existence are eternal, and that the life animating the whole is God. His works have greatly influenced later philosophers, notably Descartes, Spinoza, and Leibnitz, and in 1889 a statue was erected to him at the place of his executed to him at the place of als execution in Rome. His writings are numerous and include Spaccio della Bestia Trionfante, Della Causa Principio ed Uno, and De l'Infinito Universo e Mondi; while among the books of reference may be given, Giordano Bruno, J. L. McIntyre, 1903; Life of Giordano Bruno the Nolan, Miss Frith, 1837; and Jordano Bruno C. Bartholomèss. Jordano Paris, 1846.

Carthusians. A prominent ecclesiastic of the 11th century. His ability and knowledge were famous throughout the Church, and he was speedily advanced. But having protested against the evil-doing of one of the archbishops, he was forced to seek safety in flight. Later he was offered ecclesiastical preferment, but his appointment was opposed and he retired to a

but decimed it, and devoke massen to his order. He died in 1101. He was the author of some commentaries on the Psalms, and the Pauline Epistles.

Bruno the Great (c. 925-965), Archbishop of Cologne and later Count of Lorraine, was the third son of Henry the Fowler. He was one of the most important men of his time, distinguished for piety and learning. To him are ascribed a commentary on the Pentateuch and a volume of lives of the saints.

Brunonia is a dicotyledonous plant which is sometimes placed in the order Goodeniaceæ, and sometimes allotted an order to itself, the Bru-noniaceæ. The genus contains only one species, and that one a herb, with azure-blue flowers, which is found in Australia.

Brunow, Ludwig, German sculptor, born 1843, in Lutheran, near Lübz in Mecklenberg-Schwerin. He was at first a carpenter, but going to Berlin in 1866, he found a patron in Fr. Eggers, with whose help he was trained as a sculptor at the Kunstakademie and Siemerings studio. In 1871 Eggers induced Count Moltke to give him a sitting for a portrait-bust, and out of this came a commission for the Moltke monucommission for the Molitice monu-ment in 1873. In 1871 he produced the group 'The Harbinger of Love and the Fulfilled Dream, a 'Pegasus,' and the reliefs' Bride of Corinth' and 'Family Happiness.' After two journeys to Italy he was commissioned to execute colossal figures of Kaisers Friedrich I. and Friedrich Wilhelm

II. as well as many groups and busts. Brunsbüttel, a Ger. port, coaling station, and harbour on the N. bank of the Elbe in Schleswig-Holstein; the western terminus of the Wilhelm Canal.

Brunswick: 1. A tn. of co. Bourke in Victoria. Australia, 4 m. N. of Melbourne. It has iron foundries and saw-mills. Pop. 22,000. 2. The cap of Glynn co., Georgia, United States. It is situated on St. Simon Sound. and is an important port. Its exports

are cotton, yellow pine lumber, and rdano Bruno, C. Bartholomèss, naval stores. It has steamship communication with New York and Bruno, Saint, the founder of the Savannah. Pop. 9750. 3. A city in graduated. graduated. There are cotton and paper mills. Pop. 6925. 4. Cap. of the duchy of B., situated in lat. 52° 16′ N., long. 10° 31′ E. It has a pop. of 136,423. The inhab. are chiefly Pro-136,423. The inhab, are emeny riotestant, but there are a number of testant, but there are a number of the end of the 18th century the town was fortified, but the fortifications have now been levelled and laid out as promenades, thus enhancing contown has a somewhat antiquated appearance and is noted also for the number of old buildings, especially Hanseatic town of Germany, Lübeck. It has developed important manufs., such as linen, woollen, and hardware. the duchy is roughly 500,000. The town also contains many beautiful and useful buildings, including the ducal palace and a museum. The town propably dates back to the 9th century. It was an important town of the Hanseatic League, and attained to considerable wealth and prosperity. During the Reformation it favoured the doctrines of Luther, and took an active part in the social and religious wars of the period. It was also the

integral part of the empire of Ger- underwent a number of changes. integral part of the empire of Ger underwent a number of changes. It many. It consists of three larger and was divided first into the duchies of six smaller pieces of ter. detached and surrounded by foreign ter. The prin. div., containing B., is of oval form, and lies between Prussia and Hanover, until. in the 16th century, it was again united under Duke Julius, who land, divides Hanover. The third not only reunited it but added to it large portion is of irregular shape, also. In the 16th century an important is surrounded almost entirely by any divided first into the duchies of contention was continually a bone of contention until. in the 16th century, it was again united under Duke Julius, who large portion is of irregular shape, also. In the 16th century an important programment of the duchies of the duchies of contention was continually a bone of contention of the surrounder of the surrounder of the surrounder of the surrounded of the surrounded of the surrounded of the surrounded almost entirely by any divided first into the checking was continually a bone of contention of the surrounder of the surrounder of the surrounder of the surrounded Prussian ter. The remaining six divs. are mainly in Prussian ter. and are clustered round the boundaries of .. Hanover. The area of the whole is roughly 1420 sq. m. (Eng.). The general appearance of the duchy is hilly, but it also contains large tracts of level land which are of very great

Cumberland co., Maine, United States. ; tained. The forests yield a good supply It is situated on the S. bank of the of timber, but the comparatively new R. Androscoggin, close to its mouth, industry, mining, is gradually turning 25 m. N.E. from Portland. It is a the country from an agric. to an in-railway terminus, and noted for the dustrial one. The chief centre of the Bowdoin College at which Longfellow mining dist. is the Hartz Mts. Coal. There are cotton and iron, lead, and copper are produced in great quantities, as are also marble, alabaster, and salt. The manufs. of the town, one of the prin. of which is beet sugar, become more and more important every year. The constitu-tion is a limited monarchy with the throne hereditary in the house of B.-Lüneburg. The legislature consists of one house of deputies comprising forty-eight members. The house must siderably the beauty of the town meet at least once every three years. Its streets are narrow, and the whole but has little power save in so far as it can withhold taxation. The army of B. forms by convention a constituent part of one of the army corps of houses, which it contains. It is very Prussia. The duke is one of the picturesque, and in many respects wealthiest princes of Europe. The may be compared with another old religion is mainly Protestant, but there are a fair number of Roman Catholics and of Jews. The pop. of

Brunswick

History .- In the 10th century the lands which now form the duchy of B. were in the possession of the family of Brunos, from whence the name B. is derived. They passed, in the 12th century, into the hands of a member of the Welf family, Henry the Proud, and from him to his son, Henry the Trunk of the Welf family. Lion. When Henry fell under the displeasure of both empire and papacy, he was allowed to keep his B. lands, scene of a violent revolution in 1832, and in this way they passed into the and became municipally self-governhands of Otto, his grandson, who ing in 1834. Brunswick, Duchy of, a duchy of by Frederick II. Between the 13th Northern Germany which forms an and the 16th centuries the duchy Ιt

of level land which are of very great har, and became a state of the Ger. value. The duchy itself belongs almost empire in 1871. In 1884 the direct line entirely to the basin of the R. Weser, of B. dukes failed, and the duchy and its climate, especially in the N., is should have passed to George Duke that of the rest of Northern Germany, of Cumberland, who had until just mild and dry. The land is particularly previous to that time been King of fertile, fully 50 per cent. of it being Hanover, but had been deposed by under cultivation. The acric, produce Prussia. Prussian influence was of the land is good, and cereals, beets, ibought to bear, however, and a Prussiand all kinds of earden produce are obmar, and became a state of the Ger. and all kinds of garden produce are ob- sian prince was elected to the duchy

Duke John Albert of MecklenburgSchwerin was chosen as regent.
Brunswick, New, see New BrunsWick.
Brunswick, Friedrich Wilhelm,
Duke of (1771-1815), a Prussian Aleppo to Constantinople passegeneral. Being deposed of his duchy by the treaty of Tilsitt in 1807, he stook up arms against France, whose worn enemy he became. He fought in the Austrian campaign of 1809, and, caravara traffic from Smyrna and Aleppo to Constantinople passesceneral. Being deposed of his duchy by the treaty of Tilsitt in 1807, he spices, etc. Pop. 76,303.

Brusasorci, see Ricci, Domenico.
Brush Charles Francis, an Ameriin the Austrian campaign of 1809, and, care and inventor, born in the Austrian campaign of 1809, and, last 9 and educated at Michigan Unithe service of the British gov., in whose pay he fought in Portugal and Spain. He was re-instated in his tions. He is the founder of the Br sovereign rights in 1815, but was Electrical Company in Cleveland. Brushes, an instrument used

Brunswick Black, corresponding to Japan-lacquer, a valuable hard black varnish used in the process of japan-

vernix tree.

Brunswick Green, a light green pigment. The term is applied to: (1) Oxyaction of sal ammoniac on copper powder; (2) carbonate of copper; (3) a mixture of Prussian blue, or

indigo, with chrome yellow, a small quantity of gypsum being added.

Brunton, Sir Thomas Lauder, physician, born 1844, in Roxburghshire, Scotland. He was educated at Edinburgh University, where he graduated with honours; his thesis on digitalis won him a scholarship and years at Vienna, Berlin, Amsterdam, for a variety of purposes, such, for and Vienna. In 1886 he was a war a variety of purposes, such, for and Vienna. In 1886 he was a war a variety of cloning the inside of a ber of a commission to report 60 miles with the view classes, compound went to Paris to study Pasteur. (1. latter kind of brush term Halls to study Pasteur)

treatment of hydrophobia, are went to Paris to study Pasteur' (1. latter kind of brush tem. He became, in 1870, lecturer on the bost example. Id in the hair pencils Materia Medica at Middlesex Host of artists, and are made of one single pital. London, and in 1871 lecturer tutt of hair. They are usually bound on pharmacology and therapeutics at with quils. The compound B. can St. Bartholomew's; he no longer and 'drawn' B. Of the former the holds this position, but is consulting and 'drawn' B. Of the former the marketing at the same hospital. He physician at the same hospital. He has made a special study of the action of drugs and their application in hored with the requisite number of disease. Principal works: A Text-holes the necessary quantity of the hore special study of the necessary quantity of t has made a special study of the action)

in 1885. In 1906 the Prussian regent died; the claims of the Duke of Cumberland were again overlooked, and Duke John Albert of Mcklenburg-Schwerin was chosen as regent.

B. is especially noted for the manuf. of carpets, tapestry, silk fabrics, gauze, and satins, and the demand for the manuf. It is considerable in eastern countries, though the people of Switzenstein and the contraction of the manuf.

refusing to lay down his arms on the 1849 and educated at Michigan Uniconclusion of peace, went with his versity. He has perfected the troops to England and put himself at 'Brush' dynamo-electric machine and the 'Series' arc lamps, and has patented more than fifty other inventions. He is the founder of the Brush

Brushes, an instrument used for removing dust or dirt from the surface of anything, and also for applying paint or some similar substance It is obtained from the Rhus to a surface. The instrument, when made of long twigs, usually of birch, is called a broom, a name which is equally applied to the instruments chloride of copper, prepared by the which are used for household purposes, such as a carpet broom. filings, or by boiling copper sulphate name broom, however, is never with a small quantity of bleaching applied to the instruments used for applying paint. The derivation of the word is not altogether certain, but it is probably derived from the French brosse, and together with that word applies equally to the instrument already mentioned, and to the under-growth of a wood. The materials generally used for the manuf. of Bs. consist of either the hair of various animals or vegetable fibre. gold medal. He studied for three made of steel wire are used nowadays

iken, and one end of them is into brushmakers' cement. re next tied round with string rain dipped into the cement, hen pushed with a peculiar ig motion into the hole in the In the case of drawn B., the

book is bored with the requisite number of holes, the tufts of bristle or hairare drawn throughinto theirplace

early as the end of the 17th century governing in municipal matters, and one of these machines was in use in is divided up into nine suburbs. The

of the prov. of Brabant. It is sinated of time it became the centre of the at the junction of ser, important gov. The dukes of Brabant for some canals and railways in lat. 50° 51′ N. considerable time dwelt in it, building 4° 21′ E. long. It is built partly in the their castle on the site of the present valley of the R. Senne and partly on royal palace. This palace afterwards the hills which surround the valley. became famous as the palace of the Its climate is healthy, but it is variable and usually humid. As the cap, it is the most important in, in the kingthe most important in. in the king- Juring the war of the Processan saudom, and is the centre of legislation, lession it was bombarded by the Fr. industry, and education. It contains general Villerol, and great damage the royal seat, the chief courts, and was done to it, a number of churches the chamber of commerce. It can with and 4000 houses being destroyed by justice be said to be one of the finest red-hot shot. Also a number of incities of Europe. The new portion of teresting buildings perished at this the town is particularly beautiful, and time. During the Fr. Revolution the the whole site way he said to be republic was preclaimed here and the town is particularly beautiful, and the whole city may be said to be famous for the beauty and antiquity of its buildings. It is the centre of the prin. banks of the country and contains the mint. It forms also one of the most important centres of the industry of the country. Its lace is still considered to be the best in Europe, and it manufs. also linens, damask, silk, and cotton goods. It is remarkable for the beauty of its the most modern tas. in Europe, and in many respects it bears favourable reserving liberty of action. The Concomparison with Paris. Amongst its gress opened in July, the Russian many grand buildings may be men-Baron Jomin being president. U.S.A tioned the king's palace, which occuwere not represented; the sittings pies the site of the old palace, burnt were secret, and no important results down in 1731, and which has been followed (see report in London Gazette, much improved of late years. The Oct. 24, 1874). 1876 King Leopold residence of William the Signt is construed to the contract of the contract o

by means of thin wire. The hairs thus, are the church of St. Gudule, Notre pulled through are then trimmed to Dame des Victoires, and Notre Dame the length and shape required, after de la Chapelle. A number of these which the back is screwed on to the brush to conceal the wires, or the decorations. The Grand Place is one brush is decorated in such a way that the rough work cannot be seen. The cheaper kinds of fibre-made B. are the interesting of all the squares in Europe, both from the the best brush-making machines being the best brush-making machines being beauty of the buildings which surpatented in America in 1870—the buildings the Hôtel de Ville and the Maison du Roi, both of which are to description have been used frequently for the cleaning of the streets, and as the end of the 17th century governing in municipal matters, and by means of thin wire. The hairs thus, are the church of St. Gudule, Notre one of these machines was in use in is divided up into nine suburos. The London. The means by which in a pop. is increasing at a very rapid dynamo the current is conducted into pace, and has gone up over 25 per a rotating armature is called a brush, cent. in the course of the last fifty Brush Turkey, or Talegallus years. At the present time the pop. Lathami, is a species of the family is roughly 200,000. The history of the Megapodiidæ, or mound-birds, found in Australia. The birds lay their eggs small th. or ford during Rom. times, in mounds of sand, and the mature and is first mentioned by a name rebird is about the size of a turkey, sembling B. in the 5th century. In brownish black in colour. brownish black in colour. the 10th century it is mentioned by
Brussels, the cap. of Belgium and the Emperor Otho, and in the course
of the prov. of Brabant. It is situated of time it became the centre of the Netherlands, and witnessed the abdication of the Emperor Charles V. During the war of the Protestant Sucrepublic was proclaimed here, and after the revolution of 1830 it became the capital of Belgium.

Brussels Conferences, a number of international conferences have been held in this city. In 1874 a society for improving the condition of prisoners of war sent circulars to the great powers. Russia issued a programme of seventy-one articles, embracing all the 'usages of war,' to be discussed at the conference. Great Britain deavenues and for the magnificence of the conference. Great Britain de-its squares or places. The changes of clined the discussion of international the 19th century have made it one of law, sending General Horsford as delegate without active powers and residence of William the Silent, i.e. summound representatives (quite unthe palace used by that prince before official) of the great powers to decide his decidents. in, is now on the best way of exploring and partly as opening up Africa to European trade buildings and civilisation. Result, creation of

the Congo Free State. In 1899-1900 divided into eight parishes. 2 A the anti-slavery conference met at market th. of the same co. on the Brussels for the purpose of sup- R. Brue. Pop. 1849. pressing the slave-trade in Africa. See Wheaton's International Law, 1904.

Brussels Sprouts, or Brassica gemmifera, is a variety of B. oleracea, the cabbage a cruciferous plant. The cabbage, a cruciferous plant. The main stem of the plant bears numer ous lateral leaf-buds in the axils of the leaves, each bud a kind of pigmy cabbage. The sprouts are succulent, and are eaten as a vegetable, coming

into season in the autumn. Brussels Sugar Convention. international conference on sugar bounties was held at Brussels in 1898. eleven years after a similar meeting in London. T

but a fresh : (Dec. 1901),

should be abolished in Sept. 1903, and the maximum of the surtax limited. This 'Brussels Convention' was signed March 1902 by representatives of the powers of Great Britain, Gerof the powers of Great Dittain, many, Austria-Hungary, Italy, Swe-Netherlands. They undertook to prohibit the importa-tion of sugar from any country that refused to abolish the bounties, or else to impose countervailing duties. 1903 the British parliament passed its Sugar Convention Act to that effect. Some people consider that we pay more for our sugar in consequence of the non-importation of bounty-fed sugar, and that, while the West Indies may benefit, home consumers and the confectionery trades suffer con-siderably. Others hold that drought is the reason for increase in price; and that it is essential to do away with bounties at whatever cost, as they are unfair. It is hoped that the convention will in due course help to cause increase of production and to steady low prices. On Aug. 2, 1912, Sir Edward Grey gave notice of the intention of his Majesty's government to withdraw from this convention after Sept. 1, 1913.

Brut, or Brutus the Trojan, a hero of British legend. According to Geoffrey of Monmouth, the hero who This story gave his name to Britain. is also related by Wace and Layamon.

B. is supposed to have been the grandson of the 'pious Æneas,' he was hanished. was banished from Italy, and after many adventures reached this island. He is supposed to have founded a new city of Troy, which was erected on the present site of London. His adventures in this is., then called Albion, are given to us in long accounts of his

Brütt, Adolf, Ger. sculptor, born 1855 at Husum. He received his training at the Kunstakademie in Berlin. His first great work, 'Gerettet' (Saved). won for him the small gold medal at the Art Exhibition of 1887. In 1890 he produced 'Eve with Her Two Children, in marble, which is now in the Berlin National Gallery, and a nude 'Sword-dancer' in bronze. 1896 he completed an equestrian statue of Kaiser Wilhelm I. in Kiel, and the bronze statue of Heinrich I... and since then the Bismarck memorial in Altona, Friedrich Wilhelm II., an equestrian statue of Kaiser Friedrich III. in Breslau. Friedrich III. in marble before the Brandenburgergate in Berlin, and many other statues.

A. B. is a professor and member of the

Senat of the Academy of Arts in Berlin. Brütt, Ferdinand, Ger. painter, born 1849 in Hamburg. He was at first a lithographer, but entered the School of Art in Weimar about 1870, where he studied genre-painting. In 1876 he went to Dusseldorf and became a professor in the Kunstakademie there. B. has made a special study of modern peasant life, of which many of his best peasant me, of which many of his best pictures are illustrations. Among his chief works are: 'The Peasant Delega-tion.' 'The Audience on the Prome-nade,' 'The Hour of Decision' (in the Munich Pinakotek). 'The Christian Victor,' and 'Christmas Morning.'

Bruttium, or Bruttii, was an anct. kingdom forming a peninsula in the S.W. corner of Italy. It corresponded with the present provs. of Catanzaro and Reggio in Calabria. The dist. has always been of an extremely volcanic

character.

Brutus, Decimus Junius (84-43 B.C.), served first under Cæsar. in Gaul, who afterwards made him commander of his fleet. Later he was mander of his fleet. Later he was made master of the horse, and governor of Gaul, and Cæsar, who held him in much esteem, made him his heir, in the event of Octavian's death. But in spite of this, he was one of the conspirators in the plot against his benefactor, and was one of the first, with his relative Marcus, who helped in the assassination. Afterwards he fought against Anthony, and after having led the republican armies against him, and defeated him for some time, he was finally de-serted by his own soldiers, and fell into the hands of Anthony, who put him to death.

struggles with the race of giants who then lived here. These he is supposed to have eventually overcome.

Bruton: 1. A 'hundred' of mid. Somerset, with a pop. of 3480. It is

dered by members of their own; family, who wished to acquire for themselves the wealth of their relatives. Junius escaped with his life, which circumstance he owed to his

apparent dullness of mind, but there is no doubt that this dullness was only assumed. He was known as the avenger of women's honour,' account of having expelled Sextus Tarquinius from Rome, for his outrage on Lucretia, wife of Collatinus. In an attempt to restore Tarquinius to his throne, in a battle in which Junius and Aruns, son of the deposed king, were engaged, they killed one another.

Brutus, Marcus Junius (79-42 B.C.), hero of Shakes the

character, Julius Cæsar cated by his mother. sister of Cato of Uttica, and by his uncles, his father having been put to death by the cruel order of Pompey during the civil wars. During the early part of his manhood he practised as an advocate. In 44 he was made a city prætor, and Cæsar promised him the governorship of Macedonia. He afterwards joined in a conspiracy against Cæsar, being probably much influenced by his friend, Gaius Cassius, and he was one of the foremost who took part in the assassination. He defended Macedonia against Anthony and Octavian, but at the battle of Philippi he was defeated, and preferring death to capture, he fell upon his own sword. During his life he was an earnest student; his was a slow and rather obstinate character, lacking in sympathy, except, perhaps, with his women-folk. He had, as it seems, a great power over the Romans. One of his greatest friends was Cicero, though at times they did not agree, and Cicero remarks on his cold nature and his lack of enthusiasm. Some say he was an illegitimate son of Julius Cæsar, and this might account for his joining in the conspiracy against Cæsar, for appointing Octavian his heir. He wrote some philosophical treatises and some poetry, but nothing whatever of these has come down to us. His only extant writings consist of portions of his correspondence with Cicero, which have been proved of the Garter, a frieze consisting of beyond dispute to be his. 'Sir Philip Sydney's

Bruun, Christian Watther, a

Hoyal Library in Copenhagen, where he classified and arranged the 70,000 works contained in its Dan. section. He pub. Bibliotheca danica, 1872-86, and was one of the co-editors of the Danish collection of history, topography, biography, and history of when old.

literature. He issued also Peder Paars, Through a Century, Establishment of Denmark and Absolutism in Origin of the Royal Law, The Danish Society for the Encouragement Danish Literature from 1827 to 1877, etc.

Brüx, a tn. in Bohemia Austria, on the Biela, noted for its mineral springs and for the manuf. of salts. Coal is found in the dist. Pop. 21,500.

Bruxelles, see BRUSSELS. Bruyère, Jean de la (1644-96), a French writer of note, born at Dourdan in Normandy. Little is known of B.'s life except that at one time he held a public office at Caen, and. through the influence of Bossuet, obtained a position as tutor to the

he great Condé, entering in 1693. His Caractères as one of the standard French books, and it has been said

that the work has greater merit than that of the Greek Theophrastus, whom B. imitated. See edition in Les Classiques Français.

Bruyn, Brun, or Bruin, Cornelius (1652-1719), a Dutch painter and traveller, born at the Hague. He studied painting in Rome and Venice, and visited Asia Minor. Egypt, Russia, and Persia. From the drawings made during his travels he obtained sufficient data to publish two profusely illustrated volumes of his journeys, the principal value of which lies in the beauty of the plates.

Bry, C. T.

engrave

up as a Frankfort, and it is supposed that his career as an engraver began rather late. He executed many fine etchings and engravings for various books, including a voluminous Collection of Travels in India. But he excelled Tratels in India. But he exceined chiefly in processions; of these there are still in existence 'The Wise and Foolish Virgins,' a suite consisting of ten plates; 'The Muses,' in nine plates; a 'Dance of Peasants; 'Dance of Peasants; 'Dance of Peasants; 'Dance of Lords and Ladles; 'Pride, Avarice, Folly, Prudence, and Charity' (grotesque personifications) etc. That 9 tesque personifications), etc. That B. lived for a time in London is attested by the existence of two extremely rare friezes executed by him there; these are a 'Procession of the Knights

' B. signed his work

his initials, some-logram, and at other times with the anagram 'Torcumas Brianceus.

Brya is a genus of leguminous plants found in Central America and the W. Indies. B. Ebenus is noted for its wood, known as Jamaica ebony or B. Ebenus is noted for its cocus-wood, which becomes black

scholar and educator, born in Ohio, 1865. He taught in the common and high schools in Indiana, 1882-92; was prin. of Kokomo High School, 1893-4; professor of social and educational science, Butler College, 1896-7. was a graduate-student at Harvard and Clark Universities, 1898-1900. He became general superintendent of education in Philippine Is., 1903; y at Indiana

l president of 9; since 1909 University. actical Teach-

ing, 1905; Fundamental Facts for the Teacher, 1911; The Longer Life.

Bryan, William Jennings, b. 1860, Amercian politician, born at Salem, Illinois; educated at Illinois College and Union College of Law, Chicago; practised law in Jacksonville, Illinois, till 1887, and later in Lincoln, Nebraska. In 1891 he became a member of congress, and rapidly gained a reputation as a speaker, particularly during the free trade debates. In 1893 and 1894 he made unsuccessful attempts to enter the senate. From 1894 to 1896 he ed. the Omaha World Herald, and took up the question of free silver both in this paper and in numerous public speeches. In 1896 he was nominated for president, as a result of a speech against the gold standard delivered at the Democratic National Convention, but was defeated by McKinley. In 1898 he served as a colonel of volunteers in the Spanish-American War. He was again defeated by McKinley in the presidential election of 1900 and by Taft in 1908. He did not contest the 1912 election, but supported the successful Dr. Wilson. He has ed. The Commoner, founded by him in 1900, and pub. The First Battle, 1897, and The Old World and its Ways, 1907. His Speeches were published in 1910. Bryan, William Lowe, American author, born in Indiana. 1860. He graduated at Indiana University; was standard delivered at the Democratic

duated at Indiana University; instructor of Gk. there, 1884-5; professor of philosophy, 1885-1902; president, 1902. B. married Charlotte dent, 1902. B. married Unarrowe Lowe, 1889, and has written with her

Plato, the Plato), 189 1898; The

of Habits. Since 1910 he has been! trustee of the 'Carnerie Foundation' Advancement of Teaching.'
Bryanites, see METHODISM.
Bryant, Jacob (1715-1804), an Eng.

Bryan, Elmer Burritt, American Marlborough, and went as his private secretary to Germany. He died at Cippenham, Windsor, on Nov. 14. Bryant, William Cullen (1794-1878).

American poet and journalist, born at Cummington, Mass., admitted to the bar in 1815; practised law in Plainfield, Mass., and later in Great Barrington. During this time he gained a reputation as a poet, and in 1821 delivered The Ages as the Phi Beta Kappa poem at Harvard. In 1825 he removed to New York, and became editor of the New York Review, and in 1828 took up the editorship of the New York Evening Past, in which position he remained till his death. His journalistic work, mainly concerned with the anti-slavery move-ment, is marked by simplicity and vigour of style, together with common sense and breadth of view. He is best known, however, as a poet, and issued sev. vols. of collected poems. Among his most famous verses are: Thanatopsis, To a Waterfowl, The Death of topsis. 10 a Waterjout, Inc Deam of the Flowers, My Country's Call. The Battlefield, and The Flood of Years. He also pub. Letters of a Traveller, 1850; Letters from Spain and Other Countries, 1859; Letters from the East, 1869; Orations and Addresses, 1873; and metrical versions of the *Iliad* and the *Odyssey*, 1870-2. See *Life and Il'orks*, ed. by Parke Godwin, 1883-4.

Bryaxis is a genus of Coleoptera of the family Pselaphide. They are tiny beetles with very short elytra, which cover only half the abdomen, and they are found in moss occasionally.

but usually in ants' nests.

Bryce, David (1803-76), a Scottish architect, of Edinburgh. He designed many public offices in different styles, among them Fettes College, Edin-burgh Royal Infirmary, Bank of Scotland, the Sheriff Court, Lanark Infirmary, and many churches. was a specialist in the form of Gothic 'Scottish architecture known as baronial.' Among mansions, additions, and alterations by B. may be mentioned Panmure for Earl of Dalhousie; mausoleum for Duke of Hamilton; Kinnaird Castle for Earl of Southesk. See The Builder, May 27,

1876. Bryce, George, Canadian clergyman and educator, born 1844 in Ontario. Graduated at university of Toronto, 1867. Ordained to Presbyterian ministry, 1871. He founded Manitoba College, was prin. there, 1877-1909. Also founder of the Knox Church, Bryantes, see METHODISM. Also founder of the Knox Church, Bryant, Jacob (1715-1804), an Eng. Winnipeg. 1872, and assisted in antiquarian and mythological writer. If foundation of Manitoba University, He was a native of Plymouth, and 1877. Moderator of Presbyterian was educated at Rochester, Eton, and General Assembly of Canada, 1902; Cambridge, where he obtained a president of Royal Society of Canada, scholarship at King's College. He became a private tutor of the Duke of Apostle of Red River; Manitoba: Infancy, Growth, and Present Condition,

ford. In 1862 he pub. a monograph, and afterwards lived abroad until he The Holy Roman Empire, an enlarged died. form of his Arnold prize essay, which manifor for the lower namets, and years, in 1884 he took his D.D. from rapidly became prominent among the Edinburgh. His fame is concerned followers of Mr. Gladstone. In 1885 he chiefly in his discovery of the Epistles was returned for S. Aberdeen, and in of Clement and of the Didachë. 1886 became Under-Secretary for Brymner, Douglas (1823-1903), a Foreign Affairs under Lord Beacher. Foreign Affairs under Lord Rosebery. During Mr. Gladstone's next ministry, ceeded Mr. A. J. Mundella as President of the Board of Trade, under Lord Rosebery's administration. the same year he served as chairman of the Royal Commission on Secondary Education, and was elected a fellow of the Royal Society. In 1895 he originated the scheme for the construction of light railways which was carried into law by his successor, Mr. Ritchie, after the defeat of the ministry in June of that year. In 1905 he was appointed Chief Secretary the for Ireland, with a seat in the cabinet formed by Mr. Campbell-Bannerman. and in 1907 succeeded Sir Mortimer Durand as British ambas, to the United States, which position he resigned on November 11, 1912, being succeeded at Washington by Sir Cecil Spring-Rice. In 1902 he became a fellow of the British Academy and chairman of its Historical and Archæological Committee. politician, he has been conspicuous in his advocacy of Home Rule for Ireland, the abolition of university. tests. international copyright, and revision of the statute law, and he was largely instrumental in bringing into law the City of London Parochial Charities Act. 1883; The Guardian-ship of Infants Act. 1886; the Rail-

Centuries of Irish History, 1888; Transcaucasia and Ararat, 1896; Impressions of South Africa, 1897; Studies in History and Jurisprudence, 1901: Studies in Contemporary Biography, 1903.

Brydges, Sir Samuel Egerton (1762fancy, Growth, and Present Condition, Brydges, Sir Samuel Egerton (1762-1882; Short History of the Canadian; 1837), an antiquarr, was born in Repople; Canada and the North-West; Romantic Settlement of Lord Seltirk's Canterbury, and Cambridge. In 1787 Colonists, 1909; Mackensie. Seltirk; he became a barrister, but five years and Simpsonin Makersof Canada, 1905. later he left his profession, preferring Bryce, Right Hon, James (b. 1838); a quiet country life in Kent. He was British statesman and writer; born in made an Eng. baronet in 1814. From Belfast: studied at Glasgow and Ox-1812 to 1818 he stood for Maidstone, ford. In 1862 he pub. a monograph. and afterwards lived abroad until he

Bryennios, Philotheos, a theologian gained him an immediate reputation and metropolitan of Series, was a as a historical writer. In 1867 he native of Constantinople, bornin 1833, became a barrister at Lincoln's Inn. He studied in Germany for three years, and in 1870 was appointed regius attending lectures at Berlin, Leipzig. professor of civil law at Oxford. He and Munich. He then taught in entered parliament in 1880 as Liberal Chalce and Constantinople for sev. member for the Tower Hamlets, and vears. In 1884 he took his D.D. from

Canadian journalist and archivist, in Scotland. Entered on a mercantile Mr. B. became Chancellor of the career till 1856, emigrated to Canada, Duchy of Lancaster, with a seat in 1857, first taking up farming, after-the cabinet, in 1892, and in 1894 suc- wards journalism. He became editor of the Presbyterian, and associate editor of Montreal Daily Herald. B. was appointed historical archivist of Canada, 1872, holding office for thirtyone years. He issued a number of vols. with abstracts from the valuable manuscripts stored in the Canadian archives. These were brought out yearly, each being called Report on the Canadian Archives. See Dominion Archives from 1872.

Bryniolf, Bishop (1605-75), an Icelandic divine, bishop of Skalholt. 1639-75. He made a most valuable collection of old Icelandic MSS. Of these he sent many by the traveller. Thormod Torfæus, to the king library at Copenhagen. A number of the remainder unfortunately perished after his death. See Vigfusson and Powell, Corpus Poeticum Boreale, 1883.

Brynmawr, a market and mining tn. in Brecknockshire, S. Wales. It is 14 m. from Brecknock and is on the L. and N.W. Railway. Pop. 6910. Bryology (Gk. βρίσι, moss, λόγος.

word) is that part of the science of botany which treats of mosses (q.r.).

Bryonia is an Old-World genus of Cucurbitaceæ, which is represented in Britain by *B. dioica*, the wild bryony of our hedges. The root was formerly much used in rural pharmacy, and the flowers are the sole source of food of the bees known as Andrena florec.

Bryonin is an amorphous, bitter substance which can be extracted by boiling water from the root of Bry-onia dioica. It is a yellowish-white substance, sometimes tinted with red or brown. It is a drastic purgative. and poisonous in large doses.

Bryophyllum, a succulent genus of

s remarkable for s which occur on eaves. B. cal-in British hotleaves.

houses, and B. proliferum is another

common species.

Bryozoa is a term applied by Ehrenstill known by this name, they are usually referred to as the Polyzoa (q.v.).

Bryum, a genus of mosses, belongs to the order Bryineæ and family Bryaceæ. The species are exceedingly numerous, and are found in great abundance in Great Britain. Sev. of these are B. lacustre, B. pendulum, B. cuspidatum, and B. arclicum.

Brzezany, a tn. in Galicia, Austria, with manufs. of leather and linen.

Brzeziny, a tn. of Russian Poland, gov. of Piotrkow, over 60 m. from Warsaw. Has woollen manufs. Pop. about 8000.

Buache, Philippe (1700-73), was a He was a royal

and the year a member of He pub. aces. Géographiques

et Physiques sur les Nouvelles Découvertes de la Grande Mer. He also pub.

several atlases, etc.

Bubalis, the common name of the genus Bubalinæ, a section of the family of true antelopes. Their real home is in Africa, but one or two species are found in Asia. Among the chief representatives of the B. are the hartebeeste of southern Africa, the bontebok of the southern interior, the sassaby of Cape Colony, the bubaline of the northern deserts, the blesbok, and the gnu, or wildbeeste. They are all large, rather ox-like, horned in both sexes, with long and more or less hairy tails, high withers, elongated heads, broad and naked snouts, the property of the sexes of the se tall, narrow upper molars, two teats, and they are more or less uniformly coloured. One of this group is supposed to be the B. of the ancients, often represented on Egyptian monu-

Bubastis, the modern Tel Basta, was once the holy city of the Egyptian goddess Bast or Pasht, whose sacred animal was the cat. She was supposed to hold the same place in the Egyptian Pantheon as Artemis or Diana. Bass was the wife of Ptah, and the mother of Nefer Atum. Her type is that of a goddess with a lion's head, and she was looked upon as the bringer of good luck. Later on the head of the lion was changed to that of a cat. The worship of the goddess was chiefly at B., and at the time of Khoiak—near Christmas. The city was taken by the Persians in 352 B.C. Pantheon as Artemis or Diana. Bast was taken by the Persians in 352 B.C.,

non to S. Africal and then it lost its importance. The ruins of its temple were discovered in 1887, together with many other antiquities.

Bubble, South Sea, see SOUTH SEA

BUBBLE.

Bubo, the swelling and inflammation of a lymphatic gland, particuberg to a phylum of animals, from larly of the groin, and usually assotheir moss-like appearance. Though ciated with gonorrhea or syphilis. The chief varieties are: (1) Simple or sympathetic B., one caused by friction or mechanical irritation: this includes what was formerly called primary B.. believed to be due to syphilis before the formation of a chancre; (2) syphilitic, that which appears in syphilis; (3) virul.

to the chancre sists of

of pus; the lymphatic gland overlying the parotid; (6) rheumatic, a hard lump, usually on the back of the neck, fol-

lowing articular rheumatism.

Bubo is the Latin term for a genus of owls of the Strigidæ family. The species are characterised by a small carflap and two tufts or feathered horns on the head, while the legs are feathered to the toes. B. ignavus is the eagle owl common to Europe, Asia, and Africa.

Bucaramanga, a tn. of Colombia on R. Lebrija, superseded Socorro as cap, of dept, of Santander. Centre of the coffee-trade, has large mines of gold, copper, and iron close by. Wide streets, electric lighted. Hat and cigar factories. Railway projected to the Magdalena, 1907. Pop. over 20,000. Buccaneers. The name applied to

the bands of piratical adventurers, of various nationalities, who had their headquarters in the W. Indies during the 17th century. Their existence the 17th century. Their existence seems at first to have been an out-come of

national

Drake, E early B. confined their operations to reprisals against Spain. In 1625 a band of Eng. and Fr. adventurers founded a settlement on St. Christopher, from which they made cattlehunting raids into San Domingo, drying the fiesh and selling it to passing vessels. Their name of 'boucanier' (Fr.) came from the Indian ' boucan, a term used of the apparatus on which the meat was cured. In 1630 they removed to Tortuga del Mar, a small is. in the Bahama Channelto the N.W. of San Domingo, which lay in the main route of trading vessels. They were joined by kindred spirits from all parts of the world, and for many years were a terror to Spanish ships and settlements on the neighbouring is, and mainland, the Spanish capture of the stronghold in 1638 having no fleet fought them off Cartagena, and permanent effect. Their early leaders after the peace of Ryswick in 1701 included the Frenchman Montbars, they gradually deteriorated into cutknown as 'The Exterminator,' Olon-throat desperadoes, without the reanis, and Peter the Great of Dieppe, ideeming qualities of greatness. See thefamous Welshman, Henry Morgan, Dampier's Voyages, 1697; Burney's Michael de Busco, Bartolomeo de History of the Buccaneers of America, Portuguez, Mansvelt, and Van Horn. 1816: Esquemeling's Buccaneers of In 1634 they captured and sacked America, 1678 (Eng. trans. 1741 and New Segovia, in Honduras, and later 1893); and the books on the subject plundered Maracaibo and Gibraltar, by Wafer, Ringrove, Sharp, Thornon the Gulf of Venezuela, and settled burg, Archenholz, Stockton, Capt. Providence, in the Bahamas. Their Johnson, Pyle, and Haring. footing was still more firmly estab. in 1655 by the capture of Jamaica by the British, who lent them a kind of indirect support as fellow-enemies of Spain. Operations from Jamaica were directed by Morgan, who seems to have possessed qualities of chivalry, valour, and brilliant generalship, as a set-off to his undoubted cruelty on many occasions. He was especially successful at the sack of Puerto Bello, but seems to have become too strong to please the British, as in 1670 a treaty to suppress buccaneering was concluded between Great Britain and Morgan's answer to this, in Spain. 1671, was to cross to the mainland with a fleet of thirty-nine vessels, and after marching across the isthmus and fighting a pitched battle, to sack and burn Panama with circumstances of great barbarity. He later made terms with the British gov., was knighted by Charles II., and became deputy-governor of Jamaica. In 1680 the B. crossed the isthmus of Darien, and, under the command of John Coxon, took Santa Maria and some Spanish vessels in the Bay of Panama. Then, while some returned to Jamaica, others, commanded by Sharp, Watling, and Hawkins, went through the S. Sea to Cape Horn, by which route they returned, laden with enormous wealth. In 1683 six vessels of the B., under Van Horn, sacked Vera Cruz, while another section, under John Cook, went to Cape Horn, were joined by a vessel sent out from England under Eaton, and ranged the Pacific for two years, commanded by Davis skirmish with Sir Walter Kerr of Cess and Swan. In 1685 they returned to ford, in Edinburgh. His great-grade 1166 1688 an Eng. party returned from plundering Leon and Realejo, in Nicaragua, and some of its members joined a Fr. expedition against Carta-When the war between England and France broke out in 1689, however, the alliance came to an end, and the B. were harried by both

Buccari, a port and royal free tn. of Croatia-Slavonia, in Hungary, situated on a small inlet of the Adriatic Sea.

Buccina is the term given to a Roman military wind-instrument of the shrill horn or cornet kind. By some it is said to have been formed of the horn of a bull or goat, by others the shell of the buccinum.

Buccinator (Lat. 'a trumpeter'), the thin flat muscle of the check, forming the lateral wall of the month.

the lateral wall of the mouth. It is so called because that part is dis-tended in blowing a trumpet. Its action is to retract the angle of the mouth, flatten the cheek, and bring it into contact with the teeth.

Buccino, It. tn. in Campania. a castle, old walls, and Rom. bridge. Quarries of fine marble near. Pop.

(1901) about 5000.

Buccinum, see WHELK. Buccleuch is a small glen in Selkirkshire, Scotland, about 18 m. S.W. from Selkirk.

Buccleuch Family. An ancient and distinguished Scottish ducal house. tracing its descent from Sir Richard le Scott (d. 1320), who was famous in the reign of Alexander III. of Scotland. The first of the family to receive the title of B. was Sir David Scott of Branxholm, who sat in James III.'s Edinburgh parliament of 1487 as Dominus de B. The Sir Walter

skirmish with Sir Walter Kerr of Cess-Panama, and were joined by two son, bearing the same name, 1565-other parties, a Fr. one under Grog- 1611, was warden of the Western other patries, a Fr. one under Gross 1011, was warden of the Mestern niet and L'Escuyer, and an Eng. one Marches, and was raised to the peer-under Townley. This was the height age in 1606 as Lord Scott of B. He is of their power, for with wealth and celebrated for his rescue of 'Kinmont security jealousies began to spring up, Willie 'from Carlisle Castle, as well as and the Fr. and Eng. separated. In for his services in the Netherlands, Willie from Carlisie Castle, as well as for his services in the Netherlands, and in organising border bands for foreign service. The title of Earl of B. was bestowed upon a Walter Scott in 1619, who commanded a Netherland regiment against Spain. The first Duke of B. was James, Duke of Monmouth, the illegitimate son of Charles and the B. were harried by both II., who received the title in 1663 on countries. In 1697 an Eng. and Dutch his marriage to Anne, Countess of B.

When he was beheaded in 1685 the versity Church, where he had been

social service to his tenantry by making numerous improvements on the Walter Francis, fifth duke, 1806-84, was noted for the creation of the deep-water harbour at Granton, near Edinburgh, was lord-lieutenant of Midlothian and Roxburghshire, and captain of the queen's bodyguard in Scotland. His son, William Henry Walter, the sixth and present duke, was born in 1831. See Fraser's Scotts of Buccleuch, 1878.

Bucentaur was a figure representing half a man, and half an ass or bull. It was probably used as a figure-head for a ship. It was also the name of the state ship in which the Doge of Venice sailed every year on Ascension day to the Adriatic Sea. He then performed the rite of dropping a ring into the water, wedding the sea in

the name of the republic

Bucephala, a tn. on the R. Hyd-aspes, N. India. It was built near the grave of Bucephalus, who died in the Indian campaign of Alexander.

Bucephalus, the favourite horse of Alexander the Great. Alexander. when a young man, had proved to be the only one able to break in the charger, and therefore to fulfil the condition laid down by an oracle as the one necessary to win the crown of Macedon. B. died in 326 B.C., during Alexander's Indian campaign, and his master built the city of Bucephala

in memory of him. Bucer, Martin (1491-1551), Ger. Protestant reformer, born at Schlettstadt, Alsace. He was sent to Heidelberg to study after an entrance into the Dominican Order in 1506. He met Erasmus and Luther here and old attended a disquisition by the latter. bu He abandoned the Dominican body in 1521, and married a nun. He was excommunicated in 1523, and settled at Strassburg, where, during his stay, imuseum of Royal Society of Edin-Henry VIII, sought counsel of him burgh. His works include contriburespecting his divorce from Catherine tions to the Challenger expedition of Aragon. He aimed always at the reports, 1889 and 1895; on Atmounion of Lutheriem with the views of spheric Circulation and Oceanic Circules Germane lack of definite conviction have been ology, 1871. He wrote the article on levelled against him. He took part in meteorology for the 9th edition of the the interim' hetrory Children and the conviction of the co the S. German and Swissreformers, and the 'Interim' between Catholics and Encyclopædia Britannica. Protestants, and after a severe strain

duchess retained the title in her own installed regius professor of divinity. right. She was succeeded in 1732 by Mary, however, had his body exhumed and burnt. Among his treatises is De Regno Christi.

Buch, an old dist. of France, is now included in the dept. of Gironde. has for its capital La Teste-de-Buch.

Buch, Leopold von (1774-1853), Ger. geologist, b. in Brandenburg: studied together with Alexander von Humboldt in the School of Mines at Frei-He spent almost his entire life travelling on foot throughout Europe in pursuit of geological facts, and was a member of numerous learned societies, besides holding an official position at the Prussian Court. His pub. works are very numerous, and include the *Physical Description* of the Canary Islands, with two supplementary treatises, dealing with volcanic action and continental up-heaval, 1825; Travels Through Norway and Lapland: Geognostic Observa-tions on Travels through Germany and Italy, as well as a large number of memoirs in Ger. scientific journals. Both in the depts. of original thought and discovery he rendered great services to all branches of geology he rendered great Died at Berlin.

Buchan, a dist. in the Highlands of Scotland, lying partly in the N.E. of Aberdeenshire and partly in Banff-B. Ness is the most easterly shire. point in Scotland, and is about 3 m. from Peterhead. The coast-line is from Peterhead. mostly high and rocky, and below the Ness, in the granite cliffs, there is a curious well, some 100 ft. deep, into which the sea rushes through an arch-way of natural formation. The tns. of P raserburgh

B. There of bygone times, including a few ruined castles. and the remains of the abbey of Deer.

60, when he was appointed secretary to Scottish Meteorological Society. In 1878 B. became curator of library and culation; Handy Book of Meteorology:

Buchan, David, a British naval during the consequent polemics, was commander, and arctic explorer, was invited to England by Cranmer. Here to was received with favour by Edward VI. and Somerset. He died in travelled about 160 m. into the invited to two years after his arrival. and was buried at the Cambridge UniSpitzbergen with the Trent and Doro-

thea. A few years later he was lost at sea with the vessel Upton Castle
Buchan, Elspeth, Scottish religious enthusiast (1738-91), founder of sect known as 'Buchanites.' She claimed prophetic inspiration and divine After separation from her husband she met the preacher. Hugh White, 1783, and persuaded him to believe her the woman and himself the man-child of Revelations xii. The sect, always small, was banished from Irvine, 1784, and settled near Dumfries. Burns spoke slightingly of them in a letter, 1784. They enjoyed community of wives and goods. The sect became extinct in 1848. See Train's Buchanites from First to Last, 1846.

Buchan, Peter (1790-1854), collector of Scottish ballads, was born at Peterhead. He taught himself copper engraving, and learnt printing. then set up a printing press at Peter-He moved to London, but stayed only two years, afterwards returning to his native home. Prosperity favoured him, and he was able to buy property in Scotland. works are: Ancient Ballads and Songs of the North of Scotland, The Annals of Peterhead, etc. He died in London. Buchan, William (1729-1805), M.D.

and a medical writer, was born in Scotland. He studied at Edinburgh, and settled for a time in Sheffield, returning then to Scotland. He later on took up his quarters in London. He became notorious, chiefly through the publication of his Domestic Medicine in 1769. About 80,000 copies were sold in his lifetime, and his books were Continent as in Britain.

Boddam Point. visible for many miles.

rocks and caverns.

tion, mostly mountainous dist. B. Castle belongs to Duke of Montrose.

Pop. about 700.

Cambridge, went to Bengal as chaplain ing this, he to the E. India Company. Later he the lords in was appointed classical lecturer and In 1567, shortly after Mary's imvice-provost to the college at Fort prisonment at Lochleven Castle, he William, newly founded by the Mar- was elected moderator of the General quis of Wellesley. In 1866, his university conferred on him the dis-appointed him print of St. Leonard's tinetion of D.D. in gratifulation for his College St. Markey in 1866. tinction of D.D. in gratitude for his College, St. Andrews, in 1566, he donation of rare manuscripts. Most attended the Conference of York, of his books dealt with the promo- where Mary's complicity in Darnley's tion of Christianity in Asia.

Buchanan, George (1506-82), Scottish historian and scholar, was brought up in humble circumstances by his mother, who was early left a widow. In 1520 his uncle sent him to the university of Paris. Five years later he graduated as B.A. from St. Andrew's University, and in 1528 obtained his M.A. degree at Paris. For the next three years he was regent or professor at the college of Ste. Barbe. Whilst in Paris, B. adopted the Protestant faith, and his first poem, Somnium, which he pub. on his return to Scotland in 1537, was a bitter satire on the conduct of the Franciscan friars. James V. was so delighted with this attack on monastic life that he appointed B. tutor to one of his natural sons, and it was at his instigation that B. was induced to pub. his Franciscanus, which expressed the sentiments of Somnium in bolder and more violent language. It is not, therefore, surprising that in 1539, when the Lutherans were harshly persecuted, B., among others, was arrested. He managed, however, to make good his escape, and is next heard of as professor of Latin at the College of Guienne, Bordeaux—an appointment which he owed to the exertions of his staunch friend, Andrew Govea. Whilst here, he trans. Euri-pides' Medea and Alcestis, and wrote his two great tragedies Baptistes and Jepthes, which even yet have not obtained the recognition they deserve. Driven from Bordeaux by the plague, he was next professor for three years (1544-7) at the College of Cardinal le Moine, Paris. when, again through as much, or more, appreciated on the Govea's influence, he was appointed lecturer at the University of Coimbra, Buchan Ness, most easterly cape of in Portugal. On Govea's death, he Scotland (Aberdeen), sometimes called was immediately exposed to most Has a lighthouse tiresome persecutions. His imprison-niles. Near by are ment in a monastery, as the result of the Bullers of B., a group of strange his examination before the Inquisition, was beneficial in that it induced Buchanan, or Buchanan, Scottish him to begin his famous Lat. paraparish in Strilingshire, E. of Loch phrase of the Psalms. After holding Lomond (over 41,000 ac.), a few miles a chair in the College of Boncourt, from Drymen Station. Little cultiva- 1553-5, he was for five years tutor to B. the son of the celebrated Maréchal de Brissac. On his return to Scotland, 1560, he became classical tutor to Bucharfan, Claudius, D.D. (1766- Queen Mary, who estab. his worldly 1815), professor and writer, after tak- prosperity by giving him the revenue ing his B.A. degree at Queens' College, of Crossraguel Abbay. Notwithstood.

assassination was discussed before

Elizabeth's commissioners. In his Detectio Maria Reama he stated in the strongest terms the lords' case against their queen. In 1570 he was chosen as preceptor to the young James VI. Though he implanted in his pupil a real passion for learning. he rather commanded his respect than won his affections. In 1578 he resigned his position as keeper of the Privy Seal, and devoted the remaining years of his life to his History of Scotland. B. is, undoubtedly, the most distinguished British humanist of his day. Abroad, as at home, he was justly regarded as the most brilliant of scholars, his gift for writing Lat. verse exciting especial admiration. His History is a valuable contribu-tion to literature. Particular interest attaches itself to his account of contemporary events. which though biassed, is nevertheless trustworthy. His tract De Jure Regni, wherein he boldly argues that sovereigns exist by the will, and for the good, of the people, had a great influence on 17th century statesmen. As a writer B. shows himself possessed of a poet's imagination, and a philosopher's power to think. Lives by Washington Irving and Hume Brown.

Buchanan, James (1791-1868), 15th president of the U.S.A., born near Mercersburg, Pennsylvania; gradu-ated at Dickinson College in 1809; called to the bar in 1812. In 1814 and 1813 he was elected to the Pennsylvania legislature, and in 1820 became a member of congress. In 1831 he was sent by President Jackson as minister to Russia, where he concluded a commercial treaty securing privileges for the United States in the Black and Baltic Seas. After his return in 1833 he was elected to the senate, where he was a consistent supporter of Jackson and an advocate of the annexation of Texas. He left the senate in 1845 to become Secretary of State to President Polk, in which capacity he had to deal with the north-western boundary dispute with England. In 1853 he was sent by President Pierce as minister to Great Britain, where he was mainly engaged upon Central American affairs. 1856 he was elected president of the United States, in which office he supported the continuance of slavery, and was much influenced by the threats of secession of the Southern States. He was succeeded by Lincoln in 1860, and retired into private life. In 1866 he pub. a defence of certain of his actions. Administratio

Rebellion.See ms LUE US

tist, born at Caverswell: educated in Glasgow; took up journalism in London together with David Gray. His first collection of poems, Undertones, appeared in 1860, and was followed in 1865 by Idylls and Legends of Inverburn, and in 1866 by London Poems. These last, dealing with the life of the London poor, reach a very high level. His other poetical work includes The Book of Orm, 1870; Balder the Beautyful, 1877; The City of Dreams, 1888; and The Wandering Jew: a Christmas Carol, 1893. His verse exhibits considerable genius, but tends to become assertive and egoistic. His chief success in the drama was Sophia, an adaptation of Tom Jones, and Lady Clarc and Joseph's Sweetheart were also well received. His novels had a considerable reputation and include The Shadow of the Sword, 1876; God and the Man, 1881: The New Abelard, 1884; The Heir of Linne, 1888; 1884; The Heir of Linne, 1888; Rachel Dene, 1894; and The New Rome, 1899. He also wrote The Land of Lorne, 1871; David Gray, 1868; and The Hebrid Isles, 1882. Two reviews by him, The Fleshly School of Poetry. D. G. Rossetti, 1871; and The Voice of the Hooligan, 1899, dealing with Kipling, roused much critical opposition.

Bucharest, cap. city of Roumania, on the R. Dimbovitza. It stands in a fertile but treeless plain, 265 ft. above the sea-level. The city was much improved during the latter part of the 19th century, and though the suburbs still contain many mean and narrow streets of an Oriental aspect, the central part is mainly modern, being well-paved, lighted with gas, many handsome and containing buildings, as well as sev. gardens and a famous public parade. The fortifications, constructed after plans by Brialmont during 1885-96, are very extensive, forming a circle over 40 m. in circumference round the city with eighteen forts. B., which is the seat of the head of the Roumanian and Greek Orthodox Church, and also a Roman Catholic episcopal see, is noted for its numerous churches. Among the most famous are the Greek Cathedral, 1656, the Roman Cathedral, 1875-84, the Domnitza Balasa, St. Spiridon, and the Chapel of Stravropolos. The university was founded in 1864, and the Royal Palace, standing on the Calea Victorei, was rebuilt in 1883. In the same street are the National Theatre and the post office, while other prominent buildings are the National Bank, on the Strada Lipscani, the Athenseum, 1887, and the Palace of Justice, 1897. The chief public gardens on the Circum and the Strategardens. Curtis (2 vols., 1883).

Buchanan, Robert Williams (18411901). Eng. poet, novelist, and drama-

Buck Heliado-Radulescu and Michael the Introduction à la science de l'Histoire Brave. B. has a large trade as an (1833). After the revolution of 1848, exchange between Austria and the he became deputy mayor of Paris, a

Balkan Peninsula, and considerable quantities of textiles, grain, hides, metal, coal, timber, and cattle, pass through it. Its manufs., mainly in the hands of Gers. and Hungarians, are still small, but include flour, beer, soap, candles, brick, textiles, and ironware. It is the centre of the national railway system. The climate is continental, with great extremes. From the end of the 14th century till 1698 B. was the residence of the princes of Wallachia; in 1789 it was taken by Austria and held for two years; and it suffered from plague in 1794 and 1812, from earthquake in 1802, and from fire in 1847. It became the cap. in 1859. Treaties were signed here in 1812 between Turkey and Russia, and in 1886 between Servia and Bulgaria. Pop. 300,000.

Bucher, Lothar, Ger. diplomat (1817-92), educated at Berlin Uni-versity. In 1848 entered Prussian national assembly, becoming active leader of the extreme Democrats. In 1850 B. fled to England under political charges, acting there as correspondent for the National Zeitung, and publishing Der Parliamentarismus vie er ist. In 1860, on returning home, B, became Lassalle's literary executor. In 1864 he accepted a post in the Foreign Office from Bismarck, and became his private secretary. Made reporting councillor in Ministry for Foreign Affairs; Privy Councillor, 1876. Drew up the text of North German Confederation constitution, and took part in many diplomatic missions. Encouraged diplomatic missions. Encouraged anti-British feeling in Germany. Wrote Bitter aus der Fremde, Kleine Schriften politischen Inhalts (1893). See Leben und Werke of Passisses.

See Leven una Werke of Pas 1890-4: Busch, Bismarck: Secret Pages of his History, Buchez, Philippe Benjamin Joseph (1796-1865), Fr. philosopher, born at Matagne-la-Petite; began to practise as a physician in 1825. He was concerned in the organisation of the Fr. Carbonari Society, being strongly opposed to the Bourbon restoration. and was arrested on a charge of conspiracy. Shortly afterwards he joined the St. Simonian Society, and for some time was a collaborator on the Producteur, one of the journals of that organisation, as well as chief editor of the Journal des Promès des Sciences et Institutions Médicales. In 1829 he left St. Simonism to found a Neo-Catholic school known as Buchezism, the doctrines of which he expounded in L'Européen, later called La Revue Nationale (1831-48). His philosophy is also described in

he became deputy mayor of Paris, a member of the Constituent Assembly, and then president of that body. His other works include, Essai d'un Traité complet de Philosophie au point de vue du Catholicisme et du Progrès, 1839-40; Histoire de la Formation de Austorie de la Formation de la Nationalité Française, 1859; Traité de Politique et de Science Sociale, 1866; and with Roux Lavergne, L'Histoire Parlementaire de la Révolution Française (40 vols.), 1832-8.

Buchholz, Ger. tn. of Saxony, near Bohemian frontier. Dates from 16th century, then a mining tn. now

century, then a mining-th., how centre of passementerie-industry. Large book-binding establishments, manufs, of paper from wood-fibre. Pop. (1900) over 8000. Büchner, Friedrich Karl Christian Ludwig (1824-99), Ger. physician and philosopher, b. at Darmstadt; studied of Gioson Straschurg Würzburg. at Giessen, Strassburg, Würzburg, and Vienna. In 1852 he became a lecturer at Tübingen, but the controversy raised by his Kraft und Stoff (1855) made it necessary for him to resign and take up a private practice in Darmstadt. In this work. while affirming the permanence of matter and force, he asserted that brain and mind are identical, denied the existence in nature of a ruling mind, and insisted on the finality of purely physical force. His later works, mainly in support of Darwin-ism, include Die Darwinsche Theorie ism, include Die Darwinsche Theorie (5th ed.). 1890; Der Mensch und seine Stellung in der Natur (1870, Eng. translation, 1872); Aus Natur und Wissenschaft, 1862-84 (2 vols.); Licht und Leben, 1881; Der Fort-schrift in Natur und Geschichte in Licht der Darwinschen Theorie, 1884; Fremdes, und Eigen zu der Fremdes und Eigenes aus en der Gegenwart, 1890; und Socialismus, 1894;

'er Wahrheit, 1899. Bucine, It. vil. in Arezzo, 25 m. from Florence. Pop. about 8000.

Buck: 1. The male of the goat, the hare, the rabbit, and of different kinds of deer, especially the fallow-deer. The male of the red deer is a stag or hart. 2. An 18th century term applied to a reckless and spirited young dandy.

Buck, Lafferto (1837-1900), American engineer, famous as a builder of bridges, of which he constructed a number in U.S.A. and S. America. His most important achievement was his rebuilding of the suspension bridge at Niagara Falls.

Buckau, a manfacturing tn. Saxony, Prussia, incorporated with Magdeburg since 1887, on the Elbe; pop. 24,200.

Buck-bean, or Menyanthestrifoliata,

is a European species of Gentianacem.

It is often called bog-bean. Bückeburg, Ger. tn., cap. of principality of Schaumburg-Lippe, on trib. of R. Weser, 30 m. from Hanover. Has an old castle, residence of the prince. Pop. (1900) over 5500.

Buckhaven, a fishing-vil. of Scotland, in Fifeshire, on Firth of Forth. On N.B. Railway. Coal-mines close by: manufs, nets and cordage. Pop., with surrounding dist., about 8000.

Buckhound, a name applied to the staghounds at one time bred particularly for the purpose of buck-hunting. A royal pack was kept, and a nobleman held the mastership. In abolished.

Buckle, a fishing tn. on Moray Firth, in Banfishire. Scotland. It is the chief tn. of the fishing dist. from Banff to Findhorn, and possesses a fine harbour, with an area of 9 acres, and good quays. The largest fleets land here in the herring season. Pop.

6610.

Buckingham, George Villiers, Duke of (1592-1628), was born at Brooksby, Leicestershire. In 1614 he was introduced at court, and, on the fall of Somerset, his good humour and his inexhaustible fund of animal spirits at once raised him into high favour with King James. In 1618 he was created Marquis of B. Remunerative offices and monopolies, gifts of rich lands and the dowry of his wife, the Earl of Rutland's daughter, made him one of the wealthiest peers in the kingdom. B. soon acquired a powerful influence over the Prince of Wales, whom he persuaded to accompany him to Madrid in 1623. He fondly hoped that the projected murriage of Charles with the Infanta would bring with it the Palatinate as a marriage portion. His arrogance was largely responsible for the failure of the negotiations. It was B. who persuaded Charles to promise concessions to the English Catholics, without which Louis XIII, would not allow his master to marry the Princess Meanwhile he had been Henrietta. created duke and appointed lordwarden of the Cinque Ports. The attempts of B. and Charles to win The over public opinion by capturing Spanish treasure ships at Cadiz were abortive. In 1626 Charles dismissed his second parliament, as it had instituted an impeachment of sucuted an impeaciment of his favourite before the House of Lords. In 1627 B., having raised a forced loan, commanded an expedition to La Rochelle, to help the Huguenots. As the expected reinforcements never came, he had to abandon his siege in the isle of Rhé and return home in disgrace. On June 7, 1628, parlia-

ment demanded the surrender of B. who persuaded Charles not to sign the famous petition. To save his friend. the king prorogued parliament. Popular feeling ran high and lampoons against the duke were freely circulated. Finally, John Felton, a disappointed, ill-treated subaltern, assassinated him at Portsmouth, where he was about to re-embark for La Rochelle.

Buckingham, George Villiers. second Duke of (1627-88), was, after his father's death, brought up with Charles I.'s children. He joined the Royalists in 1648, had his estates cona nobleman held the mastership. In fiscated, took part, with Charles II., 1901 the hunt and mastership were in the battle of Worcester, and made. like his master, a miraculous escape. In 1657 he married Lord Fairfax's daughter, and at the Restoration recovered his lands. In 1671 he killed the Earl of Shrewsbury in a duel. while the countess, his mistress, looked on, disguished as a page. Four times imprisoned in the Tower for ridiculous exploits of ambition,

he largely responsible was ne was largely responsible for Clarendon's downfall, joined the dis-reputable Cabal, and on its break up in 1673, became, with his charac-teristic versatility, the zealous friend of democracy. On the king's death. being entangled in pecuniary diffi-culties, he retired to Helmsley in Yorkshire, where he spent his days hunting. He died ignoby, but was buried in Westminster Abbey. his exceptional talent there can be no doubt: witness his Rehearsal, a witty travesty of the stilted style of Dryden's tragedies. But he was destitute of principle, and was one of the wildest roues of a court, the immorality of which is notorious. immorality of which is notorious. There is a brilliant, satirical sketch of him as Zimri, in Dryden's Absalom and Achitophel.

Buckingham, James Silk (1786-1855), traveller and miscellaneous writer, born near Falmouth, and early adopted a seafaring life, visiting the W. Indies and America. Later he turned to literature, and in 1818 founded the Calcutta Journal, which was suppressed by the E. India Company. From 1624-29 he conducted the Oriental Herald, and by means of this and his lectures paved the way for the abolition of the company. published several books of travel and an autobiography.

an autobiography.
Buckingham and Chandos, Richard
Plantagenet Temple Nugent Brydges
Chandos Grenville, second Duke of
(1797-1861), only child of the first
duke, known as Marquis of Chandos
after 1822. Educated at Eton and
Oxford. M.P. for Buckinghamshire,
1818.33 1818-39. Introduced the tenant-atwill clause into Reform Bill of 1832.

of the Corn Laws and retired. His estates were heavily encumbered, and his own expensive habits aided his becoming bankrupt for over a million,

1862. See Gent. Mag., Sept. 1861; Francis's Orators of the Age. 1847. Buckingham, the co. tn. of Bucks, is 50 m. from London by rail. It is situated on the Ouse, which almost mentioned as a boro' in the Domesday Book. There is an Edward VI. The manufs, are grammar school. unimportant; lace-making is being revived. There are limestone quarries, corn mills, etc., and a trade in wool,

hops, etc. Pop. 3250.

Buckingham, banking tn. of Quebec on the Canadian Pacific Railway, 20 m. from Ottawa. Pop. about 3000.

Buckingham Canal, salt-water canal of British India, parallel to E. coast, forming important means of communication between Madras and the

Godavari.

Buckinghamshire, a S. Midland co. of England, bounded by Northamp-tonshire on the N., Oxfordshire on the W., Berkshire on the S., and by Hertfordshire, Middlesex, and Bed-fordshire on the E. Its area is 743 sq. m. It is an agric. co., having nearly 90 per cent. of the land under cultivation. The Vale of Aylesbury, stretching across the centre, and lying between hills on each side, is noted for its extremely fertile nature, and is one

extending county franchise to £50 for London, and it is estimated that known as 'the Chandos Clause,' only about 1900 tons of butter are sent part connected with a single name.) yearly to the great metropolis. The In 1836 obtained a committee for prin. crop is wheat, but its acreage is considering 'the grievances and dedereasing. Turnips and swedes are pressed state of agriculturists, become the chief green crops. About 3530 ac. ing known as 'the farmer's friend;' are orchards, and 32,000 ac. are 1839 succeeded to his father's dukeforestry. The woods are extensive in dom; became colonel of royal Bucks. The forests are regiment of yeomanry; held office chiefly beech-trees. The rivs. of B. under Peel, 1841, but opposed repeal are the Thames, on the S.W., and the of the Corn Laws and retired. His Colne and Thame. feeders of the Colne and Thame, feeders of the Thames, the Ouse, and its feeder the Ousel. The Grand Junction Canal passesthrough the co. The L. and N.W. becoming bankrupt for over a million, passesthrough the co. The L. and N.W. 1847. Many of his estates were sold, 1848, including his valuable collections of pictures, china, books, and part, while branch lines cross the furniture at Stowe (see Times August 1.4 to Sept. 24, 1848). Among his works are Agricultural Distress; its Bletchler, and Verney. The manufs. Cause and Remedy, 1835; Memoirs of are lace, straw plaiting, and paper. the Court and Cabinets of George III., B. is divided into eight hundreds, 1855-5; Memoirs of English Court of Cottesloe, Aylesbury, Burnham, Stoke, George IV., William IV., and Victoria, and Desboro'; the last three form the 1859-61. His Private Diary appeared Chiltern Hundreds. Buckingham is 1862. See Genl. Mag., Sept. 1861; the co. tn. but Aylesbury is the accident. the co. tn., but Aylesbury is the assize tn. The co. returns three members to

parliament. Pop. 197,500. Buckinghamshire and Normandy, situated on the Ouse, which almost John Sheffield, Duke of (1649-1721), encloses it, and is crossed by three a son of the Earl of Mulgrave, he bridges. It is an ancient the being succeeded to the title in 1658, and entering the navy, was appointed to the command of a ship, and shortly afterwards received a commission in the army as colonel. During the reign of James II. he became lord chamberlain, and in the time of William II. a cabinet councillor. By William he was made Marquis of Normandy, and in 1703, on the accession of Anne, he became Duke of the county of Buckinsham and Keeper of the Privy Seal. He was obliged to resign office in 1705, but in 1710 returned to power as lord steward of the household, and in the following year was made President of the Council. He wrote

Essay on Salire, an Essay on Poetry. Buckland, Francis Trevelyan (1826-80), an Eng. naturalist, born at Christ Church, Oxford: educated at Winchester and Christ Church. In 1848 he went to London to study medicine, and was house-surgeon at St. George's Hospital in 1852-3. During this time he made the observations recorded in of the most valuable dists, in England. his Curiosities of Natural History (4 It affords rich pastures for sheep, vols., 1857-72). In 1856 he joined the cattle, and horses. The sheep are staff of the Field, and wrote numerous noted for their fine luxuriant fleeces. papers for it on fish. birds, etc., till The breeding and rearing of cows is 1865. In 1866 he founded Land and important, Herefords and Shorthorns. Water, an original weekly journal. In being favourite stock. Pigs and ducks 1865 B. estab. a piecicultural exhibitare reared extensively on the dairy tion at South Kensington Museum, and farms, to be sent to London markets, his knowledge of and interest in this farms, to be sent to London markets. his knowledge of and interest in this Milk and cream cheeses are also made branch of natural history led to his

a number of poems, and, as well as an

appointment as inspector of salmon; but later developments in historical fisheries in 1867. popular writers on scientific subjects of his time, his works include: Logbook 1875; an ed. of Natural Histor 81; Notes and Jottings from Animal Life, 1882. See Life by G. C. Bompas, 1885. Buckland, William (1784-1856), an

Eng. geologist, dean of Westminster; born at Tiverton, Devon; educated at Winchester and Corpus Christi, Oxford. From 1808 to 1812 he travelled over the S.W. dists. of England studying geology at first hand, and in 1813 succeeded Dr. Kidd in the chair of mineralogy at Oxford, accepting in the same year the newly-founded readership in geology at that uni-versity. His inaugural address, dealing with the relations between geology and religion, was pub. in 1820 under the title of *Vindicia Geologica*. He contributed several papers to the Geological Society of London and to various scientific journals, and began to organise the geological museum afterwards given to Oxford University. In 1823 he pub. his Reliquiæ Diluvianæ, in 1829 described and named the recently discovered Pterodactylus macronyx, and in 1836 con-tributed a treatise to the Bridgewater Series. In 1825 he had become rector of Stoke Charity, Hampshire, and in 1845 was nominated dean of West-minster. His intellect began to fail in 1850, and he remained mentally weak till his death.

Buckle, George Earle, born nr. Bath. 1854; educated at Honiton Grammar School, Winchester College, and Oxford (M.A. 1879). Barrister at Lincoln's Inn, 1880, but never practised. B. joined the editorial staff of the Times, 1880, becoming editor on

Chenery's death, 1884.
Buckle, Henry Thomas (1821-62), Eng. social historian, born at Lee; educated at home on account of ill-health. In 1838 he entered his father's business, where he remained till his father's death in 1840. After a year spent in travelling on the Continent he settled down to historical study in London, living with great simplicity and acquiring a large library. He was intro-duced by Hallam to the Society of Antiquaries and the Royal Literary Society, and gained the friendship of several eminent men. In 1857 there appeared the first vol. of his *History* of *Civilisation*, the scope of which, originally intended to include the whole of Europe, was restricted to England. The second vol. appeared in 1861, having been written with great difficulty owing to domestic troubles and illness. The work had an extraordinary contemporary reputation.

One of the most study have made clear the disadscientific subjects vantages under which B. laboured in having been deprived of a university He had, however, great education. literary power, and extensive knowledge. He died at Damascus of typhus fever, contracted during a visit to the His Miscellaneous Works were ed. in 3 vols. in 1872, and his Life and Letters. by A. H. Huth (2 vols.), appeared in 1880.

Bucklersbury, a dist. of London, formerly spelt Bokerelesburi, named after the wealthy family of Bokerels, who lived there in 13th century. In Stow's time the street was given up to apothecaries and grocers. speare's friend, Richard Shake-Quiney, carried on business there. Falstaff (Merry Wives) says gallants 'smell like B. in simple time.' Ben Jonson also refers to it, and Sir Thomas More lived there for a time. It runs between Walbrook and Queen Victoria Street and on to Cheapside.

Buckley, Arabella Burton (Mrs. Fisher), Eng. naturalist, b. at Brighton, 1840; secretary to Sir Charles Lyell, 1864-75; lecturer on natural science 1876-83. Her works are popular and 1876-83. Her words are popular suitable for the young. They include: A Short History of Natural Science, 1876; The Fairyland of Science; Winners in Life's Race, 1883: Life Winners in Life's Race, 1883; Life and Her Children; Moral Teachings of Science, 1891; Eyes and no Eyes, 1901.

Bucknall Steamship Lines, Ltd., a company formed in 1900 to take over and extend the British and Colonial Line (1892), estab. to take passengers and cargo between London and ports in S. and E. Africa. It also controls lines between New York and S. Africa, Australia, and New Zealand, Man-churia, and the Far East, and India; and between English ports and ports on the Red Sea and Persian Gulf via Marseilles. The company are steamship owners and brokers, owning about twenty-nine vessels (Buluwayo, Fort Salisbury, Johannesburg, 1895). London offices: 23 Leadenhall Street,

E.C., and 50-51 Lime Street, E.C. Buckner, Simon Bolivar, American soldier and politician, b. in Kentucky, 1823. Hegraduated at West Point, and was assistant professor there, 1845-6. B. won distinction under Scott in Mexican war and was made captain. In 1848-50 he was assistant instructor of infantry tactics at West Point. He

Confederate army, taking part in the defence and surrender of Fort Donelson to Grant, 1862. Exchanged as a prisoner, he fought again, becoming major-general and lieutenant-general. Was pall-bearer at Grant's funeral.

Bud

States, 1896.

Bucknill, Sir John Charles (1817councillor, censor, and Lumleian lecturer in the College of Physicians and Surgeons there. B. was a great authority on insanity, being first medical superintendent of Devon Co. Asylum. 1844-62, and the lord chancellor's medical visitor of lunatics. 1862-76. He was knighted 1894. B. Insane Drunkards, 1878; Care of the Insane and their Legal Control, 1880.

Buckram was once a rich woven cloth, considered especially suitable for church vestments. Thus the Bishop of Exeter, in 1327, presented his cathedral with banners of red and white B. It is wrong, therefore, to picture Prince Hal and Poins, who are referred to as 'rogues in B. suits,' in that stiff, wide-meshed stuff of linen or cotton which is commonly called B. to-day. Its stiffness, due to size, renders it useful for lining belts, collars, bonnets, etc., and also for bookbinding. Like 'cunning' and

degenerated in meaning.

Buckskin is a twilled cloth, made of

made from sheep or deer skin.

Buckstone, John Baldwin (1892-79), dramatist, actor, and theatrical manager, born at Hoxton; was destined for the sea, but refused, and after a short time in a solicitor's office, took Guicaez, an Austrian town in to theatrical pursuits. He joined a Galicia, on the Stripa, 47 m. N.E. company of strolling players, and from Stanislaw. rapidly attained a reputation as a low comedian, making the acquaintance of Edmund Kean. In 1823 he first appeared in London as Ramsay in The Fortunes of Nigel; in 1824 joined the Coburg company, and in 1827 D. Terry's company at the Adelphi, appearing there in his own play, Luke the Labourer. His connection with the Haymarket began in 1833, and in 1853 he became manager there. His effect.

1885; governor of Kentucky, 1887-91. | B., with opposite leaves and thorny The National (gold) Democrats nomitors; the berries have cathartic pronated B. as vice-president of the perties, and their juice is used in the manuf. of sap-green. R. Frangula, the Alder B., has scattered leaves; 97), Eng. physician; studied medicine the wood produces a light charcoal at University College, and became used in making gunpowder, and the bark is cathartic. Both these species are natives of Britain.

Buckwheat, or Fagopyrum, is a genus of Polygonaceæ, closely allied to the rhubarb. It is greatly culti-vated in N. America for the flour which is obtained from the seed. It is also valued as food for cattle, and as 1862-76. He was knighted 1894. B. also valued as food for cattle, and as originated The Journal of Medical a plant producing much honey it is Science and The Brain, being editor useful in bee-keeping areas. The for some time. His works include: common B., or Fagopyrum esculentusoundness of Mind in Relation to tum, is a native of Russia and Central Criminal Acts: The Psychology of Asia, but it has become naturalised Shakespeare; The Medical Knowledge in Britain, where it is grown chiefly of Shakespeare; Notes on American as food for poultry. F. Tataricum. Asylums; Habitual Drunkenness and the Tartarian B., is a more hardy Inspan Drunkere 1873. Care of the blant, but the flour obtained from it plant, but the flour obtained from it is not so good. F. cymosum is the perennial B. of India. while F. convolvulus, the blackbine, or climbing B. is a British weed.

Bucolics (derived from the Gk. word Boukolós, a shepherd) has come to be a synonym for pastoral poetry.
A later Gk. writer, Theocritus, wrote
... which

country alterna-

wishing probably to excite comparison be-tween his poetry and that of his famous rival. The framework of gossip,' the word has obviously Milton's Lycidas is B., for the poet legenerated in meaning. shepherds ' nursed upon the self-same wool, with the nap cropped off very hill. Ronsard gathered his eclogues finely. The B. breeches are made of together under the title Les Bucothis material. It is also a soft leather liques, but otherwise the term has not been used by modern, as opposed to classical, poets. However, the adjective B. is frequently used to describe the character of such a work as Sidney's Arcadia.

Bud is the term used to indicate an undeveloped shoot. It is called a leaf-bud if it is about to develop into a branch bearing foliage-leaves, and a flower-bud it to bear a flower, which is really a modified shoot. If it appears at the apex of a stem it is said to be terminal, if in the axil of a leaf it is axillary or lateral, and if from any other part it is adventitious. If sev. Bs. occur in the axil of a single numerous plays were mainly success- leaf they are called accessory Bs. In ful owing to his knowledge of stage some cases Bs. remain undeveloped for a long time, when they are said to Buckthorn is the name given to be latent, or dornand, and these are of various species of Rhamnus, the great importance when frost has detypical genus of the order Rhamstroyed the early Bs. Winter-buds nacew. R. cathartica is the common are often prevented from dying by loss of moisture by such developments as the secretion of resin, as in the horse-chestnut, or a covering of hair.

as in the willow.

Budeus, or Bude, Guillaume (1467-1540), a Fr. classical scholar, born at Paris; studied there and at Orleans, devoting himself especially to Gk. He was secretary to Louis XII., librarian to Francis I., and provost of the merchants of Paris, and was also sent on sev. missions to Rome. He was a devoted student, and his numerous learned works include De Asse, Annolations on the Pandects, and numerous Latin commentaries on the Greek tongue.

Budaörs, summerresortin Hungary, co. Pest-Pilis-Solt-Kis-Kún; pop.

(1900) about 6000.

Budapest, cap. city of the kingdom of Hungary, and the second city of the Austro-Hungarian empire, standing on the edge of the great Hungarian plain on both sides of the Danube. The two cities, Buda, on the r. b., and Pest or Pesth on the left, were united in 1873, and are joined by five bridges: a chain bridge (1842-9) between the

ers, the Queen Franz Josef Bridge, and a the older and

portant of the two parts, stands on and around two hills. On one stands the royal castle, erected by Maria Theresa, and a fort-ress, rebuilt after being destroyed by the Hungarians in 1849. The palace chapel of St. Sigismund contains the Hungarian regalia and the hand of St. Stephen. On the Blocksberg, on the S. of this hill, stands the old citadel, while on a lower mound to the N. is the Turkish mosque, built over the tomb of the saint Sheik Gül-Babas. Other prominent buildings are the palace of Archduke Joseph, the residence of the premier, and of the minister of national defence, all standing in the Georgsplatz, where is also a monument to General Hentzi, the 13th-century parish church of St. John, and the National Lunatic Asylum. Buda was originally the Rom. colony of Aquincum, and the cap, of Lower Pannonia. In the 13th cap. of hower randonia. In the 13th century it was the prosperous Ger. th. of Old Buda, but was destroyed by the Mongols in 1241. It was rebuilt by Bela IV., and was the residence of the kings of Hungary till captured by the Turks in 1526. It was held by them from 1641 to 1686, when the Hapsburgs reoccupied it. It was stormed by the Hungarians in 1840. stormed by the Hungarians in 1849. Pesth, the more modern city, stands upon a sandy plain with fine quays along the Danube. The main streets radiate from the Belvaros, which is enclosed by boulevards replacing the

old city walls. The most notable buildings are the Houses of Parliament and Palaces of Justice (1896). the Academy of Sciences (1862-4), containing valuable art collections and a fine library, the Bourse, and the Redoute buildings, all on the Franz Josef Quay: the National Museum (1850), Theatre, and University (1783), on Museum Street; the Industrial Art Museum, on Ulloi Street; the Royal Military Academy (1872), in the Orczy Gardens; and the Leopold Basilica (1851-68), on Andrassy Street, one of the most handsome thoroughfares in Europe. There are a parish church, a Gk. church, and a Jewish synagogue, and numerous parks, including one on Margaret Is. Pesth appears to have been populous in the 13th century, but was destroyed in the Turkish wars after 1541. In 1867 it became the cap. of the Hungarian kingdom. Both tns. have valuable baths and sulphur springs, and the united cities form a large manufacturing centre for machinery, spirits, and tobacco. cutlery and metal-work, glass, etc. The most important industry is milling, the trade in grain and flour being enormous, and there is considerable commerce in cattle and swine, honey. wax, bacon and hides, timber, and coal. Pop. 835,000.

Budaun, a dist. and tn. in India, 140 m. N.W. from Lucknow. The dist. is level and fertile, and watered by the Ganges, Ramganga, Sot, and the Mahawa. Its area is 2005 sq. m. Rice, wheat, cotton, and sugar-cane

are grown.

Budd, George (1808-82), an English physician, born in Devonshire. Third wrangler at Cambridge, 1831; continued medical studies in Paris and at Middlesex Hospital. Professor of medicine in King's College, London, 1840. In 1837 B. won notice by an article on the stethoscope as an acoustic instrument (Medical Gazette, As physician to Dreadnoupht seamen's hospital-ship at Greenwich made researches with Busk on cholera and scurvy. 1867 B. gave up practice and retired to Barnstaple through illhealth. Pub. Treatise on Discases of the Liver, 1848: Treatise on Discases of the Stomach, 1855. See Medical Gazette for his 'Gulstonian Lectures,' 1847. See also Medical Circular, 1852.

dence of See also Medical Circular, 1852.

Budd, William (1811-80), an Eng.

physician, brother of George (a.v.).

Educated in London, Edinburgh, and

paris. M.D. Edinburgh, 1838; gold

in 1849.

medallist for essay on acute rheu
r, stands

ne quays

study of the origin and transmission

of typhoid fever. In 1842 settled at

which is Bristol, becoming physician to Royal

cling the Infirmary there, 1847-62. B. zcalously

did much for the improvement of sanitation. In 1873 ill-health obliged him to give up practice. Chief work. Typhoid Feter. its Nature. Mode of Spreading, and Pretention. 1873. Others are: Malignant Cholera, 1849: Siberian Cattle Plague, 1865; Cholera and Disinfection: Scarlet Fever and its Prevention, 1871. See Lancet, i., 1861 and 1867, manuscript letter from Professor Tyndall. Buddha and Buddhism. Buddhism

Buddha

is a religion that derives its name from its founder, Buddha, or, more correctly, 'The Buddha,' which correctly, 'The Buddha,' which means 'The Awakened' or 'The Enlightened.' Despite the fact that Buddhism numbers among its adherents about one-third of humanity -over 500,000,000—the amount of exact information concerning the foundation of this remarkable faith is far from exhaustive. There appears. nothing himself. It was only afthis death that councils were held

promoted Bristol water-works, and of Suddhodana, King of Kapilavastu, a kingdom situated near the boundary of Oudh and Nepal. His mother's name was Maya, and according to some legends Buddha's was a virzin birth. The date of his birth has been orra. The date of his birth has been approximately fixed at 620 R.C. Many are the stories told to show how in early life the young prince evinced that preoccupation with the suffering of all sentient beings which was to set him on his life's mission. viz. the search for the solution of the problem of pain. This preoccupation alarmed the king, for he feared his son would abandon his high station as ruler. In the belief that, love will as ruler. In the belief that love will cure these thin distempers, on the advice of his ministers the king married his son at an early are to Yasodhara, a beautiful princess. ('The thoughts re cannot stay with brazen chains A girl's hair lightly binds.') She bore him a son and they however, to be a general consensus lived together for twelve years (till of opinion among orientalists that Siddhartha was thirty) in a most Buddhism was originated in the N. luxurious and closely-guarded prisonof India in the 5th century B.C. by a palace. But the prince's mind still Hindu prince named Siddhartha, or, dwelt more and more on mortal ills as he is often called. Gautama. There the pain and vanity of existence from are those who doubt whether Gau-, which even death offered no escape tama (or Buddha) was an actual for Buddha accepted as unquestionhistorical person, as there are those ingly as his contemporaries the who question the historical existence Brahmanic doctrine of the cycle of of Christ, and it may be remarked lives). At last, breaking from his that as in the case of Christianity, triple-guarded prison, leaving his the founder of Buddhism wrote loved wife and child, he became a partial bursely. gorous

the adherents of the new faith settle the canon of its sacred writings of the Brahmans. But he was unand to fix its doctrine. These councils convinced that the 'Path' was to be numbered three the first being held found in their teaching, and less still by his chief followers immediately in the self-inflicted flesh-mortifying after the death of Buddha. Schism and secession led to the holding, a tentury later, of a second council in the Prince of Darkness, seeking by order to uphold the doctrine against; flerce temptation to turn him from the self-institute. the schismatics, but it was not till his quest. At last, after sitting under 244 B.c. that Asoka, King of Magadha a tree for weeks plunged in profound (now Behar), and at one and the same imeditation on the cause of things, time the Apostle Paul and Emperor Buddha emerged into that state of Constantine of Buddhism, summoned enlightenment in which he underthird cauself the more registry of the cauself the state of the same in the cauself the same in the a third council to more precisely fix stood the cause of suffering and, conthe canon. This was apparently not sequently, its cure. The tree under reduced to writing till about 150 which B. sat during his meditation reduced to writing till about 150 which B. sat during his meanature years later, when the canon stood sub-1 is known to Buddhists as the Bodhistantially as it does now. The sacred druma ('the tree of intelligence'), writings are divided into three parts: The spot on which this tree stood is (1) For the latry; (2) for devotees, believed by the devout to be the i.e. monks, etc.: and (3) a meta-centre of the earth, and in the court-physical section. The principal texts—yard of an ancient temple in Bengal are the Sanskrit version of Nepal and stands a pipal-tree which is claimed the books of the Caylon Buddhists in to be the descendant of the Bodhists. the books of the Ceylon Buddhists in to be the descendant of the Bodhithe books of the Ceylon Buddnists in to be the descendant of the Booth-the Páli language (see Pall). The druma (or, as it is sometimes called, story of the life of Buddha and a the Bo-tree). The original Bo-tree brief summary of his teaching is riven, was said by a Chinese traveller to be in delightful verse by Sir Edwin still standing 1200 years after the Arnold in his Light of Leia (Regan; death of Buddha. The solution of his Paul) and may be briefly outlined problem—the world's problem— here. Prince Siddhartha was the son having been vouchsafed, Buddha spent the last forty years of his life in | following the 'Eightfold Path.' These preaching his new gospel. He returned to his wife, who became one according to others, at an earlier age, viz. about 543 B.C. The new faith spread rapidly over the whole Indian peninsula, and in the 3rd century B.C. was carried to Ceylon. Thence it spread to Burma (5th century A.D.) and Siam (7th century A.D.). Its ever zealous missionaries carried the tidings even further afield, and at the present day, although Buddhism is almost extinct in the country of its origin, it is the most widely spread religion of Asia. In India the of Himalayan other Nepalese and Nepalese and other Himalayan tribes are Buddhists, and Buddhism flourishes in Ceylon. Burma and Slam are still Buddhist, the majority of the Chinese, many of the Japanese, the Mongolian peoples of Tibet and Central Asia, and even the Tartars of S.E. Russia are adherents of one form or another of this world-em-bracing faith. In briefly describing the doctrines of Buddhism it will be well to compare them with the tenets of Christianity. Only by a thorough grasp of the fundamental difference of outlook of the two faiths will the westerner be able to resolve so much that puzzles when he contemplates the East. For though it is easy to find certain superficial resemblances between Buddhism and Christianity, both in the lives of the founders of these two faiths and in their ethical teaching, yet the philosophy on which these two world systems are based is diametrically opposite. Both systems realise the inadequacy of mundane existence; both may not unfairly be termed pessimistic; but the remedy of Christianity is 'life more abundantly', while that of Prablical ntly,' while that of Buddhism, Nirvana,' or 'extinction.' Holding antly,' that existence on the whole is an evil, and that death offers no release from existence—for excarnation but leads to renewed incarnation—the Buddhist ardently desires to escape from this cycle of lives, not by

slips into the shining Sea.' man 'acquired merit' in hi lives the sooner w At the basis of Four Sublime Buddha, viz. (1) that it is brought about by attachment or desire; (3) that Nirvana alone can end pain; and (4) that the way can end pain; and (4) that the way ways, but the plants which are conto Nirvana is only to be attained by cerned in the operation must be

are: Right Doctrine, Right Purpose, preaching in the strength of the strength of his first converts; converted Bimbisara, King of Magadha (Behar); Lowliness, Right Rapture; and by and travelled widely in the N. of acquiring merit by these means the India. Buddha died at the age of Law of Karma (q.v.) ensured a more than the strength of in the word renunciation, i.e. freedom from attachment which alone causes existence. Attachment springs from desire, and desire from sensation, which in turn is the product of ideas. So that existence is the product of Buddha taught that ideas ideas. were mere illusions, and that if man will but free himself of his illuded ideas-ideas for example, such as the attribution of reality to transitory and imaginary things—then attachment will cease and with it unhappiness. Perhaps the most marked feature of Buddhism is not its fatalism, which it shares with other castern faiths, but the fact that the Law of Karma cannot be set aside by any Divine Being. Buddha was not concerned to dispute the existence of gods, but they, if they existed, were as much subject to the cycle of change as was man. Some Buddhist nations have no word in their language for 'God' in the sense of being an arbiter of the fate of man. sound somewhat startling to assert that one-third of mankind is atheist. and it cannot be denied that Buddha is to-day worshipped and prayed to by multitudes of his followers, but the truth is that Buddha himself never claimed to be more than a man, and taught that a man's future was solely in his own keeping. This teaching has been well summed up by Mr. Bliss Carman, the American poet :-

The gods themselves and the almightier fates Cannot avail to harm With outward and misfortunate The radiant unshaken mind of him Who at his being's centre will abide,

Secure from doubt and fear. Consult Burnouf's Introduction l'Histoire du Bouddhisme Indien; Rhys Davids' Buddhism; Sir Edwin Arnold's Light of Asia; Fielding's Soul of a People and Inward Light.

Buddh-Gaya or Bodh-Gaya, a vil. of Bengal, resorted to e been the The ruins

of Asoka's palace are here. is an operation in horti-

Buell 98

closely related botanically, e.g. roses in bud upon roses, apples upon pears. apricots upon plums, or pears upon mediars. In shield-budding a bud from the wood of the present season's growth is cut from its parent in the months of July or August, when the bark separates freely from the wood. The operator then makes a cut in the shape of a T in the bark of the stock near the ground, slightly loosens the bark, raises it and places inside it the He then tightly binds up the bark above and below the bud with about a foot of raffia until the bud unites with the stock, when he removes the binding. If the operation is successful the tree which has been budded is cut short above the new member in the following spring, in order that all the strength from the root may be forced into the bud.

sometimes the Scrophulariaceæ, but insane, and eventually he drowned different from plants of the latter himself in the Thames. order in possessing stipules. B. globosa, a native of Chili, is common in our gardens; B. Americana is a native of Peru and the West Indies.

coast of Forfarshire with two light-

houses.

vented the Bude light. Pop. 2368.

cavations at Assoun in Egypt, in the vious year; and an estimate of the Soudan, and in Mesopotamia, and was revenue and expenditure for the later appointed keeper of Egyptian ensuing twelve months, a balance and Assyrian antiquities in the British being struck by the remission of old Museum. B. has been decorated with or the imposition of new taxes, with the order of the Star of Ethiopia, reference to the surplus or deficit on Among his many scholarly works may the past year. Deficit are also met be mentioned: Assyrian Texts, 1880; by loan, or by suspension of the Babylonian Life and History, 1884; Sinking Fund. the order of the Star of Ethiopia.

Among his many scholarly works may
be mentioned: Assyrian Texts, 1880;

Babylonian Life and History, 1884;

The Direllers on the Nile, 1885; The
Bool: of the Bee; Memoir of Dr.

Birch. 1886; Calalogue of Egyptian

Antiquities (Harrow School Museum), 1881; Coptic Martyrdom of George of Cappadoria, 1888; History of Alex-ander the Great, 1889; The Mummy, 1894; First Steps in Egyptian; The Laughable Stories of Bar-Hebrous; Bible Illustrations; Guide to the First and Second Egyptian Rooms (British Museum). 1898; Egyptian Ideas of the Future Life, 1899; Guide to the Third and Fourth Rooms (British Museum). 1905 : Guide to Babylonian and Assyrian Antiquities in Brilish episcopal palace, and theological Museum (with Kinz, 2nd ed. 1908); school. Pop. 39,910.
Miracles of the Virgin Mary; The Buell. Don Carlos (1818-98), Ameri-Gods of Egypt: The Bosetta Stone and can military officer, born in Ohio. Decree of Canopus; Hieralic Papyri

in British Museum, 1911; Cook's Handbook for Egypt and the Sûdan (3rd ed. 1911).

Budgell, Eustace (1685-1736), an English writer, born at St. Thomas near Exeter. He was educated at Oxford, and afterwards entered the Inner Temple, but neglected his studies for literature. He was a friend and relative of Addison, who procured for B. a clerkship in the Civil Service and afterwards an assistant-secretaryship. He contributed to the Specialor over the eignsture 'X,' to the Guardian, and with Addison and Steele to the Tatler. B. published a lampoon directed against the Duke of Bolton and his secretary, E. Webster, in 1718, through which he lost his position. He was involved in the South Sea Bubble, losing £20,000, and was suspected of forging Tindal's will by Adam which he was bequeathed £2000. Buddleia, named after Adam which he was bequeathed £2000. Buddle, is a genus of plants some Losing the consequent law case and timessaid to belong to the Loganiacem, others, he is believed to have become

Budgerigar, see PARRAKEET.

Budget, the account of the finances of a state, or, by analogy, of some smaller body, presented at a definite Buddon Ness, a Scottish cape on E. time by the responsible minister. Under the present procedure in Great Britain the Chancellor of the Ex-Bude is a seaside resort on the N. chequer presents his B. to the House coast of Cornwall. B. Castle was the of Commons during April. His state-residence of Mr. Gurney, who in-ment falls into two parts: an account chequer presents his B. to the House of the results of revenue and expendi-Budge, Ernest A. Wallis, an Eng. ture during the past twelve months, orientalist, studied at Cambridge, ending on March 31, showing what where he won distinction in the surplus or deficit there has been comSemitic languages. He conducted expared with his estimates of the precavations at Assoun in Egypt, in the vious year; and an estimate of the

> Budrio, a fortified coast tn. of Italy. some miles from Bologna; pop. of

com. about 17,000.

Budrum is a seaport of Asiatic Turkey, situated on the Gulf of Kos, 96 m. S. from Smyrna. It was built on the site of the anct. Halicarnassus.

Pop. 6000.

Budweis is a city of Bohemia. Austria, situated on the Moldau, 130 m. from Vienna. Its manuis, are stoneware, cloth, machinery, salt-petre, lead pencils, etc. It does considerable trade in salt, coal, timber, and wool. It is noted for its cathedral

can military officer, born in Ohio. Graduated at West Point,

performed various duties as assistant continual dredging. The city stands adjutant-general; in 1861 B. helped to on a level plain, very little above organise the army of the Potomac, sea-level, and has a mild and moist and commanded in Kentucky. Major-climate. The streets are regularly general of volunteers in Civil War laid out at right angles to each other general of volunteers in Civil War (1862) for the N., opposite party to Buckner's. B. took part with Grant in battle of Shiloh, and defeated Consederate army at Perryville. Superseded on account of charges brought against him, he refused to hold further offices when offered to him. B. resigned his commission, 1864. He became president of Green River Ironworks, 1865-70, and engaged in mining enterprises. Pension agent at Louisville, 1885-9. See Statement of Major-General Buell, and Fry, Operations of the Army under Buell, 1884. Euen, a tn. of Spain, prov. of Pontevedra. Pop. about 7000.

Buenaventura, a free port on the

Buenaventura, a free port on the Bay of Choco, off the Pacific coast of Colombia, 200 m. W. by S. from Santa Fé de Bogota. Its climate is hot and unhealthy. Pop. 5000.

Buen Ayre, or Bonair, is a Dutch is. off the Venezuelan coast. Its pastures are rich. The exports are hides, horns,

beef, and tallow. Pop. 4500.

1. The largest Ayres: prov. of the Argentine Republic, having a coast-line of 740 m. to the E. and S. on the Atlantic, from the mouth of the Plata to that of the Rio Negro, and bounded on the N. by the R. Parana and the provs. of Santa Fé and Cordoba, and on the W. by the ter. of La Pampa and the prov. of Cordoba. It is for the most prov. of Cortaga. It is not he most a plain, well watered with rivers and lakes. Though many of these are useless for navigation, they add greatly to the fertility of the country, while the Parana, with its estuary, the Plate and the Plate the Plata, and the Rio Salado, are valuable navigable streams. The only hilly country occurs in the extreme S. of the prov. The climate is good, being considerably tempered by the Atlantic breezes. The main drawback is the Pampero, a destructive hurricane which blows from the S. in the summer. The soil is very fertile. and cereals, tobacco, and fruit are grown, but cattle-grazing is still the leading industry. The affairs of the prov. are administered by a governor prov. are administered by a governor and vice-governor, and a congress, all completely independent of the central gov. The chief towns are the federal cap. B. A., the provincial cap. La Plata, Ensenada, and Bahia Blanca: Area, 117,807 sq. m. Pop. (excluding the city of B. A.) 1,392,203. Republic, on the W. bank of the Plata 150 m. from the sea. The Plata is The Plata is 150 m. from the sea.

served in Seminole and Mexican wars, here almost 30 m. wide, but very under Generals Taylor and Scott, as shallow, so that the two entrances was Buckner (qx.); during 1848-61 to the docks have to be kept open by

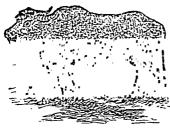
of furniture, machinery, carriages, leather, hats, textiles, boots, tobacco, liquors, etc., and the trade is very large. The exports, which largely go to Great Britain, include wool, sheep, meat, live-stock, and grain, and form a considerable proportion of the total

exports of Argentina. Pop. 1,034,781. Buer, vil. of Prussia, prov. of Westphalia, with coal mines. Pop. (1900) about 9000.

Buff. Charlotte (1753-1828), famed in German literature for winning Goethe's love, born in Wetzlar. In 1772 Goethe visited Wetzlar, was often at her father's house, and fell deeply in love with Charlotte, who was engaged to Kestner and married him 1773. She was the prototype of his heroine in Leiden des jungen Wer-

Werther, 174. See Kestner's Goethe und Werther, 1854; Herbst, Goethe in Wetzlar, 1772 (1881). Buffalmaggo, Buonamico (1262-1340), an early Florentine painter. His work is not of any particular interest; he is chiefly celebrated for being the originator of the idea of using a label drawn from the mouths of figures representing them as talking. He was for many years a disciple of Andrea Taffi, and to him are attributed some fading frescoes in the old Badia Church in Florence.

Buffalo (Bison Americanus), an animal of the bovine species once generally distributed over a space in N. America lying between Alaska and Georgia. The first authentic knowledge regarding it was that gained by Cobeza de Vaca in 1530, who de-scribed it as living in freedom on the Texan plains. From time immemorial the sev. Indian 'nations' have relied greatly upon this animal for food and clothing, and its habits profoundly affected tribal custom and religious rites. The B. roams in herds distri-



Buffalo City, founded under the name of New Amsterdam in 1801-2 used to

region. ever, is from th

but destroyed in 1813 by a British,

buted into bodies of several thousand each, and was never found solitary. This habit greatly affected the with the great ports of the lakes; method of its hunting. The hunting it ducts of the E. to the W., and the firing the grass, pressed in upon the raw products of the W. to the E., it nring the grass, pressed in upon the raw products of the W. to the E., it animals, which, panic-stricken by stands as a junction between ship the flames, fell an easy prey. The and rail; and it is the port of entry of the Buffalo Creek customs dist. in June, July, and August, when the In 1908 its imports were valued at animals were fat and the hair thin, 186,708,919, its exports at \$26,192,563. It is among the prin. grain and flour dition for food, and the skin easiest markets of the world, and has wire to dress on both sides for clothing and every considerable farmer in the every considerable farmer in In B. was constructed by states. Joseph Dart in 1843 the first grain elevator. Its horse market is the greatest in America, its millions of head of live-stock, its immense annual receipts of lumber and fish, its iron ore and coal, are eloquent evidence of its wealth. Again, as a manufacturing centre B. ranks next to New York. Among its manufactures are foundry and machine shop products, linseed oil, cars, and shop construction, malt liquors, soap, and candles, flour and grist mill products, lumber and planing mill products, clothing, iron and steel products. And amongst meat-packing, industries are ship - building, lime working, netroleum - refining, tents. The meat was cut into thin brick, stone, and lime working, strips and dried in the sun, after saddling and harness-making, lithotents. The mean was strips and dried in the sun, after saddling and harness-making, near which it was put into parfleche packs for winter use. The sinews of the animal furnished the Indians with some for ropes, and the horns were made into spoons and drinking-wessels. In winter the B. was hunted for its 'robe,' or skin. which was then heaviest, those of the heifers being the most esteemed. With the Indians the B. was the type of long life and plenty. The last herd of any dimension in the U.S. was recently purchased by the Canadian government.

The sinews of the making of patent medicines and chemicals, copper smelting and refining. On the other smelting and refining and harness-making, near graphing, the making of patent medicines and chemicals, copper smelting and refining. On the other smelting and refining. On the other smelting and refining and refining. On the other smelting and refining and refining. On the other smelting and refining and refining and refining of patent smelting and refining. On the other smelting and refining and refining and refining. On the other smelting and refining and refining and refining and refining and refining. On the other smelting and refining and refining. On the other smelting and refining and refining and refining and refining. On the other smelting and refining and refining and refining and refining. On the other smelting and refining and refining and refining and refining and refining. On the other smelting and refining and refining and refining. On the other smelting and refining and refining. On the other smelting and refining and refining. On the other smelting and refining. On the other smelting and refining and r parks linked together by boulevards name of New Amsterdam in 1801-2 and driveways. In 1901 the northern by Joseph Ellicott, the agent of the portion of the largest of these. Dela-Holland Land Company, gradually ware Park, was enclosed in the slopes upon the north eastern ex-tremity of Lake Erie in New York tion, where, in its temple of music, state. Until 1810 it retained in the President McKinley was assassinated company's books its original name; on Sept. 6 of that year. Its public but its present designation was the and office buildings are upon a magnitude of the september of the sep more popular, and tradition derives nificent scale, the Ellicott Square it from the herds of buffaloes that building ranking with the largest office structures in the world. (1906) 381,819.

Buff Leather, leather of a dull, pale yellow colour, made from S. American ox and cow-hides. This leather used Canadian, and Indian force, it rose to to be made from buffalo skins, hence the rank of a city in 1832, and in 1853 the name. The best part only of the annexed its crstwhile rival, Black hide is used for B. L., which is very Rock. With the completion of the Eric Canal in 1825, B. rapidly advicable to the forefront of com101

other purposes. The East Kent Regiment is called the 'Buffs,' and the second battalion of the Seaforth second battalion of the Seaforth Highlanders, the 'Ross-shire Buffs,' from the buff colour of their facings. The hides undergo a long and complicated process of salting and drying, cutting and scraping, treatment with cod-oil, dressing, heating, scouring, soaking in carbonate of potash, and finally of rubbing with pumice and sand.

Buffon, George Louis Le Clerc, Comte (1708-88), natural historian. was of rich and noble parentage. His life was rigorously devoted to science. but for some time he studied law at the Jesuit College in Dijon. Here he met Lord Kingston, in whose company he toured in France and Italy and travelled to England. built up a reputation as the trans-Newton's Fluxions and Hale's Vegetable Statistics, he was appointed keeper of the 'Jardin du roi,' the Fr. Zoological Gardens. probably this appointment ROT which induced him to embark on his colossal Histoire Naturelle (1749-67), which Daubenton and others Although its style is collaborated. often turgid and ultra-rhetorical— it was this which Rousseau and his other contemporaries at home and abroad so frankly admired-it was, in spite of its many unsupported hypotheses, the first work to suggest the existence of evolution in the animal world. Inspired by a genuine love of learning he undoubtedly raised the status of biological science. His membership of most of the learned societies of Europe attest his wide reputation.

Buffonia is a genus of plants of the order Caryophyllacere, consisting of sixteen European species. The genus received its name in honour of Count de Busson, the celebrated Fr. writer on natural history.

Buffoon derived fro Cf. the Fr. opera bouffe. Bs. have usually been associated with merryandrews and mountchanks, and are jesters of a coarser type, whose wit is clownish

and talk often scurrilous. They excel

given to the line in the rmer colour e now East Ross-shire pattalion of

Scaforth Highlanders). See Historical Record 3rd Regiment Foot, 1838; Mac aulay's History of England, i., 1848. Bufo is the typical genus of the toad, family Bufonide, species of

which are found all over the world is 500 miles.

See TOAD.

Bug is a term variously applied to all members of the order Hemiptera. or Rhynchota, or to those only which belong to the section Hemiptera-Heteroptera. Little is known about many of them, but over 20,000 species from all parts of the world have been classified. As they all feed on the juices of plants or the blood oſ mammals, they are extremely injurious to the human race, The chief characteristic of Bs. is the sucking or biting mouth-parts, which are in the form of a proboscis or beak. species, e.g. Cimex lectularius, are wings, which are not present in all anterior pair in the Heteroptera have the distal half membranous and the basal half thickened, while in the Homoptera they are of the same consistency throughout. many of these pests are provided with stink-glands, which emit an extremely unpleasant odour. The rate at which they increase is enormous, the females of some species laying as many as 200 eggs in summer: it may here be noted that Acanthosoma griseum, a field-bug, is one of the few insects which protects and cares for its young. The boat-fly (q.v.) is an aquatic species which preys on insects and fish; members of the family Capside feed on fruit, lichens, and grass, and cause the buttoning of strawberries; others which are vegetable-feeders surround themselves with a foamy mass known popularly as frog-spittle. The bed-bug is a well-known creature which infests man, preying on him by night and sucking his blood; the cinch-bug (Blissus leucopterus) sucks the juice of plants; the squash-bug (Anasa tristis) feeds on squashes and pumpkins; the cotton-stainer (Dysdercus njures cotton; the family live under bark; and When

used in its widest sense, the term B. includes the aphide (q.v.), cochineal

and lac-dve insects.

Bug is the name given to two rivs. The Eastern B. rises in in Russia. Podolia, and flows in a south-easterly direction for 520 m. It at length empties its waters into the Dnieper Estuary. The chief feeders are the Ingul, Balta, Tchertal, and the Solonicha. The chief ths. are Bratslav, Voznesensk, and Nikoloev. The Western B. rises in Galicia, Austria. Its course of about 480 m. forms part of the eastern frontier of Poland, and at length it joins the Vistula, about 20 m. from Warsaw. Its total length Buga, a tn. of Colombia, dept. of hooded vehicle; in England it is a Cauca, E. of the riv.. 50 m. E. of carriage with two wheels and no hood, Buenaventura port, with which a whilst in India a B. invariably has a railway is to connect it. Pop. about 12,500.

Bugasón, or Bugasán, a coast tn. on 30 m. from San José de Buenavista.

Pop. about 15,000.
Bugeaud de la Piconnerie, Thomas Robert (1784-1849), was a famous Fr. soldier, who rose from private to the rank of colonel. He took part in the Napoleonic wars; in 1815 commanded the advance-guard of the army corps of the Alps. Chosen deputy for Perigueux in the July Revolution of 1830. Afterwards Arabs, 1837. He was appointed governor-general of Algeria in 1840, when he organised the famous Zouave Duc D'Isly. Died of cholera.

Bugenhagen, Johann (1485-1558), Ger. Protestant reformer, b. at Wollin, Pomerania; studied at Greifswald; became rector of Treptow Academy in 1504; took holy orders in 1509. In wrote a commentary on the Psalms. and from 1537-42 was engaged in organising the reformed church in

Denmark.

Bugey, a dist. in France, in the old prov. of Burgundy, now forms part of the dept. of Ain. Its cap, was Belley.

Bugge, Elsens Sophus (1833-1907), Norwegian philologist and antiquary, b. at Laurvig; educated at Christiania, Copenhagen, and Berlin. In 1866 he became the first occupant of the chair of comparitive philology and Old Norse at the university of Christiania. His numerous authoritative works on Norse literature and archeology, and Germanic philology, include: Gamle Norske Folkeriser, 1858; Norræne Fornkrædi, an ed. of the Edda, 1867; Norræne Skrifter af Sagmhistorisk Indhold, an ed. of the Volsunga and Markows, and the School Scho Hervarar sagas, 1864-73; Studier over der Nordiske Gude og Hellesagns Oprindelse, 1881-9; Norges Ind-Oprindelse, 1881-9; Norges Ind-skrifter med de Aeldre Runes, 1891; Bidrag til den Aeldste Skaldedight-nings-histoire, 1894; Lykische Studier.

Bugis are a people who inhabit Macassar and Boni in the Celebes Is., W. of Panay, Philippine Is., about belonging to the Indian Archipelago. They are of medium stature and of a somewhat fair colouring. They are somewhat fair colouring. They are crafty and revengeful, although they have been found to be faithful,

obedient slaves, if treated well. They clothe themselves in a piece of striped cotton round the waist, and bind their hair in a coloured cloth. They trade

in gold dust, nutmegs, camphor, birds' nests, etc.

Bugle, a wind instrument, made of created marshal by Louis Philippe, copper, with pieces of brass soldered who sent him into Algeria to quell the on to the most exposed parts to prevent wear. Compared with trumpet, its tube is shorter and more conical, and the bell less expanded. regiment; after his subjugation of the As its notes are peculiarly penetrat-Moors in 1844, received the title of ing, it has been widely adopted for giving directions to large or scattered bodies of troops. Used at first for infantry only, it has now supplanted the trumpet for cavalry and artillery It is in the key of Bb, and its open notes, which alone are employed 1520 he was converted to Lutheran in military signals, are C (below the doctrines by reading Luther's De stave), G, C, E, G. The three other Captividate Babylonica. He matricu: notes, C (octave lower), and B) and C lated at Wittenberg in 1521, and was above, are somewhat ineffectual. The of great assistance to Luther in his cornet has now quite superseded the translation of the Bible. In 1524 he Kent B., which was fitted with keys to increase its compass, and which at one time was one of the most popular instruments in brass bands. In spite of its difficulty, this particular B. is still a part of the bugle bands of certain rifle regiments. The B. calls, certain rifle regiments. contained in the drill manual, are known alike to officers and to the rank and file. One G signifies 'right,' two Gs 'centre,' and three Gs 'left,' while more elaborate calls mean 'Advance,' 'Cease Fire,' 'Assemble,' Charge, etc.

Bugulma, a Russian tn. in Samara. It has an important situation at the junction of two roads from Orenburg and Ufa. A yearly fair is held. Pop. 13,750.

Buguruslan, a Russian town Samara, at the junction of the Kinell and Tarkhanka. Its manufs. are leather, potash, wax, and beer. Pop. 19,390

Buhl Work, or Boule Work, a kind of marquetry invented by a French cabinetmaker, Charles André Boule (1642-1732). It consists of a skilful nings-histoire, 1894; Lykasene Sumter. (1997-1195).

1897 (Eng. translation, 1899); and inlaying of tortoise-shell, enamel, roseTolkning of Runeindskriften paa wood, and various pierced metals,
Rökstenen, Oestergölland, in the and has a highly decorative effect Indigrarish Tidshriftfor Storige, vol. v. when applied to ornamental pieces of Buggy, an Indian word, is used of a furniture. Boule was patronised by variety of carriages. In the United Louis XIV.. and his work is still States it means a light, four-wheeled, valued by collectors.

architecture, this journal includes a number of interesting articles on spect, and should be attractive to the rer readers of all classes. The first editor boards, of this journal, which appeared in *clazier* 1842, was Mr. H. H. Hansom, the the par inventor of the hansom cab. The dividual trades for further details. inventor of the hansom cab.

present editor is Mr. Statham. mason, bricklayer, carpenter, plum-ber, slater, smith, plasterer, bell-hanger, glazier, and painter. After the site has been excavated, it is generally found necessary to put then commenced by the mason or bricklayer, and when these have been carried a little above the ground-level 'a damp-proof course' is laid along every wall. Walls are generally built of stone or brick, and gradually get less thick as they rise from the ground. Dividing walls may be 9 or 131 in. thick, while outer walls should not be less than 13½ or 18 in. The fixing of drains, chimneys, etc., is all included in the mason's work. The carpenter then puts in lintels, floorcarpender then puts in lintels, floor, deposit plans of his intended build-joists, rafters, tie-beams, and the rest of the woodwork which is necessary authority, under pain of having his at this stage. The plumber's work work pulled down, if he commences must now be done. He has to fix in to build before the local authority

Buhrstone, or Burrstone, a siliceous the lead-pipings, and make sure that rock deriving its name from the rough none of the parts to be enclosed are surface presented. It is largely used liable to leakage. He then fixes the as millstones and for grinding, and is cisterns, baths, water-closets, kitchen as milistones and for grinding, and is closterins, oaths, water-closets, kitchen to be found in France, Scotland, and sinks, taps, ventilating pipes, soil-wales, while there is also a German pipes, traps, etc. Either he or the gas-fitter then conveys the gas-pipes Builder, The, a weekly journal through every room. The slater then (Friday, fourpence), fully illustrated, proceeds to cover the roof with slates and affording all sorts of information (having first laid a layer of felt over on architectural and archeological the sarking-boards) or tiles, and if subjects. Although devoted mainly the walls require harling or roughto the sciences of engineering and casting he undertakes this work. The smith has to fix all steel girders, joists. and beams, and to provide screws, bolts, etc. Laths are then nailed to sculpture and the decorative work bolts, etc. Laths are then nailed to generally. Some of the highest authe wall and ceiling-joists, allowing thorities in the architectural world room for the plaster to grip between contribute to its pages. The illustrational them, and the plasterer lays on three tions are of a high order, showing coats of plaster. He also fixes all various designs in the construction of cornices, plaster-panelling, cement buildings, and giving excellent examples of decorative and sculptural coat of plaster, the bell-hanger will work. In its original form, the B. was have put in the bell-hanger will merely a trade journal, but it has the bells, and when the plasterer quite altered its character in this re- has finished, the carpenter puts in spect and should be attractive to the re-

Building By-laws. With the object present edutor is Mr. Statham.

Building, a term used to apply of securing a measure of conformity either to the art and craft of erecting with sanitary principles in the conedifices, or to the edifices themselves. struction of buildings, various Public The walls of houses may be built of Health Acts vest local authorities many varying materials, from the ice with power to make by-laws with and snow of the Arctic regions to the respect to all buildings. The Public leafy boughs of the tropics. In temperate climes, however, a more stable urban and rural authority may make perate climes, however, a more stable urban and rural authority may make edifice is required, and civilisation has given the work of creeting these of walls, foundations, roofs, and edifices to different craftsmen, all of chimneys of new buildings for secur-whom work together under the archi-ing stability and the prevention of tect. Generally these craftsmen are fires, and for purposes of health: also, mason, bricklayer, carpenter, plum- with respect to the drainage of buildings and to the sufficiency of the space After about buildings, so as to ensure a it is free circulation of air and proper generally found necessary to put down a layer of concrete as a foundation. This varies in thickness according to the situation and state of the ground. The erection of the walls is Housing and Town Planning Act, then commenced by the mason or 1909, the machinery for colosing and bricklayer, and when these have been carried a little above the ground-to-the local authority to frame by-laws with respect to existing buildings; but since the passing of Mr. Burns' Housing and Town Planning Act, 1909, the machinery for closing and demolishing houses which are proved to the satisfaction of the local authority to frame by-laws with respect to existing buildings; but since the passing of Mr. Burns' flower plants with the local authority to frame by-laws with respect to existing buildings; but since the passing of Mr. Burns' flower plants with the local authority to frame by-laws with respect to existing buildings; but since the passing of Mr. Burns' flower plants with respect to existing buildings; but since the passing of Mr. Burns' flower plants with respect to existing buildings; but since the passing of Mr. Burns' flower plants with respect to existing buildings; but since the passing of Mr. Burns' flower plants with respect to existing buildings; but since the passing of Mr. Burns' flower plants with respect to existing buildings; but since the passing of Mr. Burns' flower plants with the passing o ventilation. The act also enables the thority, either by the medical officer of health or by any other person, to be unfit for human habitation, has been so strengthened that it is hardly necessary to make any special provision by way of by-laws. Where a builder contemplates building opera-tions he is required by the by-laws of most if not all local authorities to

significs its approval and the building settled land for 99 years, so as to bind is not in conformity with the by-laws. Approval or disapproval must be signified by the local authority within one month of the deposit of the plans. It is noteworthy that since the formed with the object of raising by the mature of the local formed with the object of raising by great extent stultified the existing by-laws. As a result of repeated agitation in parliament, the Local Government Board in 1912 issued a circular enabling local authorities to in progress; such relaxation, how-ever, to be subject to certain restricand Casson and Ridgway's Notes on the Housing and Town-Planning Act, 1909.

Building Lease, a lease granted usually for a long term of years to a builder for the purpose of erecting, improving, adding to, or repairing buildings. The term does not include leases granted on the terms of merely keeping existing buildings in repair. A B. L. may be granted prior to the commencement of the building operations, but the general practice on the part of owners of land who are developing an estate is to enter into an agreement with the builder by which the latter covenants (see COVENANT) to build and the owner (see covenants to grant leases at a ground rent as and when the buildings are completed on any specified part of the land. The absence in a B. L. of a covenant to build is fatal to its validity. A mortgager while in possession has power in the absence of a stipulaof an express power to grant 1. A tenant for life under the S

plans. To be noteworthy that fince the confied with the object of raising by passing of the Housing and Town the subscriptions of the members a Planning Act, 1909, local authorities stock or fund out of which to make may suspend their B. B. where a ladvances to members upon real or town-planning scheme has been leasehold estate by way of mortgage. town-planning scheme has been leasehold estate by way of mortgage, initiated. The ideals of town-planners The boon conferred is that every one were found impracticable under the who joins such a society may in rigidity of the existing model by-law course of time become his own landas issued by the Local Government lord. In addition, however, B. Ss. Board. The existing model by-laws afford a means of investment of small enable a builder to erect as many as savings. Prior to the earlier part of fifty-fix houses to the acre, whereas the principles of hygiene, according established in different parts of the to town-planning experts, forbid the United Kingdom, principally among experts of the industrial classes and in the industrial classes and in 1920. erection of more than a dozen, the industrial classes, and in 1836 an Economically it was necessary to give 'Act was passed with the avowed local authorities power to suspend object of encouraging and protecting the operation of their existing B. B., such societies. Since that time B. Ss. because it is only by such relaxation have flourished extensively, and the because it is only by such relaxation have hourshed excessively, and the that they can secure a cheapening of benefits accruing from them, consestate development. Moreover, the use of reinforced concrete, and other parliament, are no longer restricted newer materials for building, to a to the industrial classes, but have great extent stultified the existing afforded the medium for the profitable investment of very great sums of money and have assisted many thousands of persons in becoming the proprietors of their own houses. (Scratchrelax their existing by-laws, even lev and Brabrook on Building Socie-where no town-planning scheme was lies.) Under the Act of 1874 B. Ss. in progress; such relaxation, how-are either (1) Terminating or (2) ever, to be subject to certain restric- Permanent. When the Act of 1836 tions. For fuller information. see was passed all B.s. were terminating. Knight's Annotated Model Bye-laws, A terminating society is one which by its rules is to terminate at a fixed date or when a result specified in its rules is attained. Such a B. S. usually contains a limited number of members. to whom, as soon as the aggregate subscriptions reach a high enough amount to pay the present value of the share or shares of any one or more members, advances are made until the value of each member's share or shares is fully paid; the member who receives the advance gives a mort-gage to secure the continued payment by him of his subscriptions, and when all the members have been paid the amount agreed upon as the value of their share or shares, the society automatically comes to an end. A permanent society is one which is not by its rules borfixed date or any specified

1874 every society whose rules have been certified under the repealed Act has power in the absence of a stipula- of 1836 may obtain a certificate of tion to the contrary to grant building incorporation from the registrar of leases for a term not exceeding 99 friendly societies and become a body years. So, too, a mortgagee if in corporate by its registered name. (See possession; if not, then only by virtue also Corporation.) This applies to of an express power to grant lease 180 Corporation.

Land Acts may grant B. Ls. (

rated act through trustees. B. Ss. established since 1874, and not falling within the above category, may also become incorporated under that Act.

Building Stone, stone used for constructional purposes. The use of stone quarried from the earth for the purposes of constructing dwellingplaces and monuments dates from the earliest times of history. Certain kinds of rocks have for long been selected for their suitability for building purposes. It is evidently necessary for the construction of large buildings that the stone employed should be able to withstand the very great forces called into play by the weight of the building. It should also be a stone which can be quarried easily, and which does not offer too great resistance to the mason's tools. The question of the weathering of the stone has also to be taken into account, especially in that destined to be used for the outside work of buildings in large cities. The rain-water of large towns contains in solution a relatively large amount of carbon dioxide (carbonic acid gas), and the solution has a considerable dissolving action on B. composed of limestone. It has been found that granites among igneous rocks and sandstones and limestones among aqueous rocks, are most suitable for building purposes. Each of these kinds has certain properties which render it most suitable for particular kinds of work. Thus for strength and resistance to atmospheric action granite is by far the best, while marble (limestone) is chosen where beauty of colour and form is the chief property required.

Granites occur mostly in great masses, which may cover hundreds of square miles of country. In England the granites of Cornwall are the most important, but the Leicestershire granite (Mount Sorrell) and the Shap granite are also very widely known. In Scotland the granite of Aberdeen, Peterhead, and Ross of Mull are very largely quarried, and much granite is quarried in N. America, Canada. Norway, Sweden, and Russia. best varieties of granite are strong, durable, impervious to moisture, and when of suitable colour have a pleasing and ornamental effect. In Aberdeen granite is the principal B.S., and a large amount of polished and cut granite is prepared and exported for ornamental work, both in Britain and abroad. Many of the quarries in the British Isles are, however, in remote districts, and the rocks are difficult

to dress.

Sandstone is similar in composition to sand, but its grains are cemented together usually by silica. Pure sandstone is white or pale yellow in

colour. It is usually very hard and capable of withstanding weathering. It is perhaps the most widely used of B. Ss., there are few of our large cities in which it is not seen. A good example of a sandstone of tough quality. pure colour, and great durability, is the Craigleith stone. Ferruginous sandstones have a yellow, brown, or red colour, and are used to a large extent for building, as they are easily dressed and can be obtained in large quantities. Less durable than granite and less easily weathered than limestone and marble, sandstones are excellent for all architectural purposes. must always be laid with their original bedding horizontal, as in that way they weather most regularly.

Limestones consist of calcium carbonate with various admixtures. They weather readily, especially when exposed to the acid smoky atmosphere of towns; they are, however, much used in building, e.g. Bath stone and Portland stone. Bath stone is an example of limestone of the Oolitic formation; it is easily quarried, but is not of a very durable nature. The famous Portland stone, which came into favour early in the 18th century, furnished the material century, furnished the material for St. Paul's Cathedral and the present Houses of Parliament. Magnesian limestone, or dolomite. occurs in varying qualities, and much of it affords good building material. The siliceous dolomite of Mansfield has been used in many important build-Crystalline limestones. marbles, are invaluable for statuary purposes, Carrara in Italy producing the finest kind. They are suitable for interiors, but although fine in effect are very costly and unable to withstand the smoke of towns.

Buitenzorg, atn. and summer resort in Java, Dutch E. Indies. It is the cap, of an assistant residency. It is 36 m. S. from Batavia by rail, situated in very hilly country, and possesses a particularly fine climate. The merchants reside here in the summer months. There is the palace of the governor-general, and some famous botanic gardens. Pop. 25,000.

Bujalance, a tn. of Cordova, Spain, 24 m. E. of Cordova. It has large manufs. of woollens, leather, etc. Pop. 11,000.

Bujnurd, a tn. in Persia, in prov. of Khorassan; fertile soil; inhab, chiefly Kurds; non, about 8000.

Kurds: pop. about 8000.

Bukharest, see BUCHAREST.

Bukkur, is. of the Indus, in Sindh,
British India, lying between Rori and
Sukkur on the riv. banks. It was
formerly a military post, and is now
important as a support of the railway
cantilever bridge built in 1889.

Buknfjörd, in Norway, situated in

Bukowina, duenyand crown-land in towersh other. The Chods the Cislethandir. of Austria-Hungary, bulb is in reality a corm, or solid fleshy bounded on the N. and N.W. by stem bearing membranous leaves. Galicia, on the S. by Moldavia, and on a plant as an axillary bud. It on the W. by Hungary and Transyl; usually takes the place of a flower, vania. It is an extremely mountainous and is large and fleshy with stored-up dist., containing a portion of the Carpathian range, and almost half of ground it forms a new plant, and is its surfere is covered with forest. The soil is very fertile, and much fruit is grown in the river valleys. The only mineral wealth is salt and manganese. Ranunculus, and Agave. Originally a part of Moldavia, B. was Capital, Czernowitz.

marera by the rampanga R. The leeds upon the food material which soil is fertile and there is considerable has been stored up in the fleshy mineral wealth. Area, 1173 sq. m. leaves. Examples of such plants are Pop. 223,742. 2. Th. in above prov., on the Pampanga delta, 15 m. from Manila. Pop. 12,000.

Bulak, see Boulak.

Bulak see Boulak.

Bulak see Boulak.

Bulak see Boulak.

Bulama, the most eastern of the Bissagos Is., off the W. coast of Africa. An attempt to found a British settlement here in 1792 failed through the terrible mortality among the settlers.

Bulandshahr: 1. Dist. of Meerut div., United Provs. of India, lying between the Jumna and the Ganges. Exports cereals, indigo, and cotton.

Area, 1915 sq. m. 2. Cap. of above dist. 40 m. S.E. of Delhi. A place of great antiquity. Pop. 18,500.

Bularchus, a Lydian, is mentioned by Pliny as the nainter of a lorest content.

by Pliny as the painter of a large picture representing the capture of Magnesia (716 B.C.). It is said that Candaules, King of Lydia, purchased this painting for its weight in gold. It is likely that the school of painting (

the prov. of Stavangar on the N.W. innermost leaves. The bulbs of the coast: this fjord runs inland 35 m., onion and hyacinth are said to be and is 10 to 15 m. broad. and is 10 to 15 m. broad.

Bukoba, in Ger. E. Africa, a station enwrap the modified shoot like a situated on the W. bank of the tunic; the bulb of the lily is scally, or Victoria Nyanza. Bukowina, duchy and crown-land in overlap one another. The crocus e Cisleithan div. of Austria-Hungary, bulb is in reality a corm. or solid fleshy

its surface is covered with forest. The thus useful in vegetative reproduction. Some plants which bear Bs. are species of Lilium, Lycopodium,

Bulbous Plants are those which annexed to Austria in 1775. The area spring from a bulb, and are usually is 4031 sq. m., and the pop., mainly found wild in light sandy soil, in Ruthenians and Roumanians, 729, 931. sheltered places. When the season is wet they develop rapidly, but when Bulacan: 1. Prov. of Luzon, theseeds are ripe the leaves wither, and Philippine Is. A hilly dist. containing spurs of the Caraballo Mts., and half a year. The young plant at first watered by the Pampanga R. The feeds upon the food material which

> word frequently used for a species of nightingale (Daulias hafizi) intro-duced by Thomas Moore and Lord Byron into English poetry. The term has, however, been applied for many years to various species of the families Pycnonotide and Timeliide, or

babbling thrushes.

Buldana, a tn. and dist. in W. Berar, India, with fertile valleys. The prin. manuf., cotton cloth: oil seeds and wheat also exported. Chief place

of trade is Malkapor.

Bulgaria, a kingdom lying between the Danube and Turkey, and the Black Sea and Servia. In area it is Black Sea and Servia. In area to its about two-thirds that of Great Britain. Northern B. proper is separated from Southern B. (Eastern Roumelia) by the Balkan Mts. A plateau region descends by successive terraces from the Balkan Mts. to the Dannie and is exceed by the death. in Asia Minor arose earlier than the Danube, and is crossed by the deeply Peloponnesian, since the Phemicians, eroded channels of the tributaries of who had long worked in colour, were close at hand. B. of course painted in tempera, and used only the simple rising in parts to a height of 7200 ft., colours, the art of mixing colours to separate B. from Turker. Between make other shades being little known that range and the Balkans stretches to the Greeks. make other snades being atthe known that range and the Balkans stretches to the Greeks.

Bulawayo, see Buluwayo.
Bulb is the name given to a specialised underground bud which consists of a short, thickened stem surrounded by a number of overlapping leaves which contain reserve material for the lattice of temperature, but it is which contain reserve material for the lattice of temperature, but it is roots grow at its base, and usually trees (oak, sumach, thorn, elder) and small buds arise in the axils of the lorchards of plums walnuts apples small buds arise in the axils of the orchards of plums, walnuts, apples,

pears, and cherries occur frequently. service is compulsory, 16,000 recruits Bear, wild boar, red and roe deer, chamois, eagles, wild fowl in the marshes, and partridges, wolves, squirrel, and marmot are plentiful everywhere. Sturgeon are taken in the Danube, trout in all streams, and mackerel (for drying) in the Black Sea near Burgas. The chief domestic animals are horses (small and hardy, for riding only), asses and mules, buffaloes, sheep and oxen. The soil is not rich in mineral wealth, the chief being salt, which is found at Anchialos and Balchik. Ten to fifteen thousand tons are produced annually. Gypsum is found near Stava Zagora, and coal in the Struna valley. Iron and coal in the Struma valley. Assumed and gold also exist, and there are sulphur springs on the S. of the Balkans. The chief occupation of the Balkans. The chief occupation of the people is agriculture, which engages Yarna is people is agriculture, which engages Yarna is about 70 per cent. of the population, and exposes sureats. Pop. of B Cercals (wheat, maize, rye, barley, 3.723.190. Area 385,600 sq. m. rical.—B. was originally in-

Roses are cultivated to a large extent, especially round Kazanlik and Karlavo and on the N. side of the Rhodope Mts. for attar of roses, which is largely exported. About 12,000 Bulgarians go abroad every spring, returning in the autumn to work as gardeners. Silkworms are bred in Philippopolis and Haskaro. Tobacco is carefully cultivated. There is little domestic industry apart \mathbf{from} branches, of which the more notable

work, and pottery-making. The chief exports are grain, live-stock, butter, eggs, hides, and attar of roses, sent chiefly to Turkey, France, United Kingdom, and Austria-Hungary. The population consists of Bulgarians, Turks, Greeks, Spanish Jews, and gypsies, though three-quarters are Bulgarians. Since 1877 large numbers of Turks have left the country, their places in the towns being taken by Bulgars from the hills. Bulgars are descended from Finno-Ugric Bolgari, but have been thoroughly Slavised. The Orthodox Greek Church counts 77 per cent. as its adherents, Islam 211 per cent., and the rest are Jews. The executive head of state is an hereditary prince. The members of the legislative national assembly (Sobranje) are elected directly by the people, and sit for three years. The main line of railway from Vienna to Constantinople runs through the and Philippopolis. capital, Sofia, There are nineteen towns whose

being drafted every year. Bulgarians are, as a rule, of smaller stature than their neighbours. They are powerfully built, laborious, and sensible.
They are thoroughly domesticated and love their homes and family.
The chief towns of B. are Sofia, Philippopolis, Rustchuk, and Varna. Sofia is the capital, and is situated on the R. Isker. It is a busy place of trade in consequence of its important position on the Vienna-Constantinople railway. It has a pop. of 70,000. Philippopolis, or Filibeb, was the capital of ports lar roses. Б olives also a pop. of river port

by Thracians, and under the formed the province I formed the province of Later it was occupied by the Slavonic Slovenians. The Bulgars were originally a Ural-Altaic people. They came from the banks of the Yolga and crossed the Danube in the 6th century, and occupied the East, They overcame the Slavs, adopted their language and customs, and thus became a great Slav power. In 864 Prince Boris, their chief, was baptised. and the Bulgarians became dependent on the patriarchate of Constanti-

nople. The Bulgarians were victorious

inst the Magyars and Greeks in 9th and 10th centuries. Simeon, ir prince, assumed the title of utocrat of all the Bulgarians and of all the Greeks, and Serbs and Byzantines paid tribute to him. The Bulgars dominated Macedonia, Thessaly, Epirus, and Albania. In 963 the W. part of B. broke away and formed a new kingdom, thus weakening the Bulgarians in their rivalry with Byzantine emperors. At the end of the 10th century part of Eastern B. was incorporated with the Byzantine empire, and in 1018 the western Bulgarian kingdom became a Byzantine province. In 1186 a third Bulgarian kingdom was formed by a successful rebellion, and remained until the arrival of the Osmanli Turks. The Greeks hated and abused the Bulgarians to such an extent that the word B. became an odious byword among the European nations. attack on Constantinople by Bulgars and Servians was repulsed, and the Bulgarian capital was taken in 1393. Under the influence of Byzantium and of Christianity, B. had attained in the middle ages a degree of civilisapopulation exceeds 10,000. Military tion equal to that of western nations.

close upon 500 years the Bulgars were subject to the tyrannous rule of the Ottoman empire. About the middle of the 19th century the unconcealed aspirations of the Christians attracted the suspicions of the Moslems and

body of irregular troops), destroyed villages wholesale. In the province of Philippopolis and districts around, more than fifty-eight villages were destroyed in a few months, and men, women, and children were cruelly slain. These 'Bulgarian atrocities' awakened horror throughout Europe, and especially in England, and sug-gestions were made of forming two autonomous states. The Porte refused to make concessions, and in 1877 Russia, as guardian of the Slav races of Turkey, declared war. As a result of the war, the Berlin treaty (1878) constituted an autonomous though tributary B., N. of the though tributary B., N. of the Balkans, whilst to the mainly Bul-garian province, S. of them, known as Eastern Roumelia, it granted administrative autonomy. In 1885 Eastern Roumelia was incorporated with the Bulgarian state. Taking advantage of the Young Turk revolution, 1908, and Austria's annexation of Bosnia-Herzegovina, Prince Fer-dinand repudiated the last shred of Turkish suzerainty and proclaimed himself Tsar. This action was allowed to stand by the Great Powers. In 1912, B. with Servia, Greece, Montenegro formed the Ba Balkan League, and with its allies formulated the demands which led to the Balkan War (q.r.) between the League and Turkey. To B.'s lot fell the heaviest fighting, and it is hardly too much to assert that the successful issue of that war was due, in the main, to the valour of the Bulgarian troops, the martial skill of General Savoff, and the diplomacy of King Ferdinand.

Language and Literature. — The original Bulgarian tongue was Ural- while in action, and, as a rule, each Altaic, but it has left only few traces B. is fitted with an hydraulically in the Slavonic s

Bulgars who settl Peninsula. The

tongue is closely alney to the Russian, but some Servian, Greek, Romanic, Albanian, and Turkish elements have found their way into the language. The literature in the old days of B.'s glory consisted chiefly of translations from Greek and theological works. Modern literature since 1762 consists chiefly of editions of a popular and political nature. The poems of Slaviskov, the novels of Karavelov, and the historical works of Drinov deserve

but this was destroyed by the in- mention. There is also a rich lyrical vasions of Tartars and Osmanli. For popular poetry. The Cyrillic alphabet is that in general use, as in Russian, viz. that modified out of Greek by Cyril.

Bulgarian Milk, milk containing lactic acid. Sour milk has long been looked upon as a healing agent, and the hastening of the souring process by introducing a portion in which the bacteria have already been at work is an idea borrowed from the Bulgarians and Tatars. The bacteria help in the formation of lactic acid, which acts as a preservative, preventing further decomposition. It is suggested that when sour milk is taken as food, the bacteria multiply in the intestines and aid digestion by preventing

and an upontation.
harmful fermentation.
Tadei Venediktovitch (1789-1859), a Russian writer, born in Lithuania, of Polish ancestry; served against France, and later in Napo-leon's Polish army; settled in St. Petersburg about 1820. In 1823 he founded the Northern Archive, and in 1825 a new edition of the Northern Bee, where his bitter and sarcastic writing attracted much attention. He was a follower of the Absolutist party, and nonover of the Absolutst party, and was intimate with the secret police. His novels include: Ivan Vishigin, or the Russian Gil Blas, 1829 (Eng. translation, 1831); Peter Ivanovitch Vishigin, 1830; Mazeppa, 1832; and he also pub. An Historical, Geographical, and Literary Survey of Russia, 1837.

Bullimus is the name of a large

Bulimus is the name of a large genus of land-snails comprising over 1000 species. They have external shells, and are related to the hedge-

and glass-snails.

Bulkheads: 1. The partitions which divide up the internal spaces of a ship. They are generally transverse and water-tight, but they may be longitudinal and partially or completely non-water-tight, as the circumstances may require. In warships particularly the transverse water-tight B. are very numerous to check the entrance of water through damage ked door which closes automatic-

when the compartment is flooded. subdivision required by Lloyd's Register for all steamers are four, i.c. one B. at each end of the machinery spaces and one at a reasonable distance from each end of the ship. For larger steamers other B. have to be fitted accor nearest the

B., and th after-peak B. In sailing ships the collision B. only is required. 2. The matchboarded space which lights the basement under the stall-board in a

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shop. the line of the shore and from which Skinner, who thereby committed a the piers and quays project. general term for a partition in mines and tunnels, etc., sometimes solid and sometimes provided with a door for passage of men and materials.

Bull, see Ox.

Bull, a papal instrument, ordinance. letter, or decree, issued by the Apostolic Chancery, and differing from briefs down to 1878 in being written in Gothic script. At that date Pope Leo XIII. ordered the use of Latin script, and restricted the use of the very anct. leaden seal to important Bu" Bs., replacing it in other cases by a red one. Bs. are written on parchment, to which the scal is attached by a yellow or red silk cord when concerned with the granting of favours, but by a grey one when dealing with the administration of justice. name comes from the Lat. bulla, meaning the capsule of wax surrounding a seal; the term being extended to the seal itself, and then to the docu-ment. All Bs. begin with the name of the pope, followed by Servus servorum Dei. Among the most famous Bs. of history are Clericos Laicos, 1296, and Unam Sanctam, 1302, issued by Boniface VIII. against Phillip le Bel of France; In Cena Domini, 1362, issued against hereties by Urban V.; Execubilis, 1460, in which Pius II. declared the panal superjority core the clared the papal superiority over the councils; Exsurge Domine, 1520, issued by Leo X. against Luther and burned by him; Unigenitus, 1713, which condemned Quesnel; Dominus ac Redemptor Noster, 1773, issued by Clement XIV. to abolish the Jesuits; Ecclesia Christi, 1801, which estab. the Concordat with France; Sollicitudo Omnium, 1814, by which Pius VII. restored the Jesuits; Ineffabilis, 1854, proclaiming the doctrine of the Immaculate Conception, and Pastor Elernus, 1870, in which Pius IX. proclaimed papal infallibility.

Bull, an amusing and unintentional

Bs. are usually associated with Ireland, and many of the best examples are Irish. One of the most famous is Parnell Commission, himself a soldier who had run away during action, who stated that it was 'better to be a coward for a few hours than to be dead all the rest of your life.' See R. L. Edgeworth's Essay on Irish Bulls,

to the Commonwealth, and was

3. The sea-walls which mark privately ordained, in 1655, by Bishop 4. A capital offence. As minister of St. mines George's, near Bristol, he followed the liturgy under the cloak of extemporary devotion. His Harmonica Apostolica, 1659, written in Latin. served to minimise the divergence in the views of St. Paul and St. James on justification, but the work which estab, his high reputation was entitled Defensio Fidei Nicenæ, 1685.

Bull, John, a popular term for the typical Englishman. It took its rise from Arbuthnot's History of John

the

idea has been since evolved in Punch

and other comic papers.

Bull, John (c. 1563 - 1628), Eng. musical composer, born in Somersetshire; became organist of Hereford Cathedral in 1582, and in 1585 was admitted to the Chapel Royal. He was the first professor of music at Gresham College, and one of the musicians of Prince Henry. He left musicians of Prince Henry. He left England in 1613, and died in Antwerp. 'God save the King' has been attri-buted to him.

Bull, Ole Bornemann (1810-80), Norwegian violinist, born at Bergen, and was largely self-tanght. In 1828 he appeared at a concert, and was so successful that in 1829 he went to Cassel to study under Spohr. He soon returned to Bergen, but in 1832 made his real début in Paris. Here he heard Paganini, and adopted his style of playing. He performed with great success all over the Continent till 1839, when he went into retirement for a few years. In 1843 he went to America, which he frequently re-America, which he frequently re-visited. His technique was wonderful, and he showed to be stady antage in the works of Mozart and in the national fantasias of his own composition.

Bulla, a term applied by the Romans to any ornamental stud or boss, but particularly to an amulet worn round the neck by children of noble birth till they attained maturity. custom was of Etruscan origin, and after the Second Punic War was extended to all children of free birth.

Bulla, or Bubble-Shell, is a genus of that made by a speaker during the gastropod molluses of the order The species inhabit Euthyneura. muddy and sandy sea-water and feed on animal matter. The shell is ex

on annual natter. The she is ex-ternal, has no projecting spire, and is so thin that it resembles a bubble. B. solidara is an American species. Bullace, or Prunus institua, is species of Rosaceæ which is nearly related to the sloc and plum. The Bull, George, D.D. (1634-1710), a species of Rosaceæ which is nearly related to the sloe and plum. The Tiverton School and Exeter College; would not take the oath of allegiance would not take the oath of allegiance mative of Britain.

Bullæ, collections of serum raising

the outer skin from the true skin. | They may be due to injury or friction as in rowing, or be symptomatic of skin affections, as pemphigus and

hudroa. Bullant, Jean (c. 1515-78), Fr. architect and sculptor, developed his taste and acquired his knowledge by a faithful study of the classical monuments and statues in Italy. This may be gathered from his later treatise entitled Reigle Generalle d'Architecture des cinq Manières, 1568, the earlier being a description of the various methods of making sundials, which he called Recueil d'Horlogiomaphie, 1561. His Château d'Ecouen, begun about 1540, is universally re-cognised as one of the finest architectural achievements of the period, and is remarkable, above all, for the purity of its style. For Catherine de Medici, who early appreciated his talent, he built the Hôtel de Soissons, which stood on the site now occupied by the Bourse de Commerce. The Hôtel Carnavalet, the central buildings of the Tuileries, and the tomb of Henry II., and his patroness, Catherine, are also his work.

Bullas, in Spain, site on hill in prov. of Murcia; interesting Rom. remains; manufs, hempen fabrics, eathenware.

and brandy.

Bull-baiting, formerly a popular sport in England. A bull, with the points of its horns protected, was fastened to a stake and attacked by fierce dogs. The sport was abolished by law in 1835.

Bulldog, a breed of dog formerly employed in the middle ages for the batting of bulls. It is probably a subvariety of the mastiff, crossed with lesser breeds, and the tales concerning its descent from the hyæna may be dismissed as so much fiction. In Elizabethan times these dogs were perhaps the most sought after Engof the sports of bull- and Their ability to seize

muzzles of the anin

became proverbial, and was only due in part to their innate courage, as popularly conceived, the nature of the underbite 'or locked jaw peculiar to the breed making it difficult for the animal to loose its hold when once There is some evisecurely fixed. dence that the B. was known in Roman Britain. During the 18th and early 19th centuries the breed was in ·pro-

cter, and, as every breeder knows, is notorious for its good nature, especially with children, who are much safer with it than with the more 'snappy' breeds. As a watch-dog the B.

inces

is uselesz. The points of the modern B. are as follow: Colour, white (the standard colour), brindle, fawn, colour), brown, not black, which is disallowed; skull of massive proportions, deep stop 'between the eyes, which should be placed well apart; nose black, if spotted with pink it is known as a 'dudley nose,' and tends towards disqualification; ears 'rose' or 'tulip,' neatly set and light; neck thick and short; chest well developed: legs massive, showing plenty of bone, and short, so set as to give the dog the appearance of being 'cloddy' or set near the ground; body short, tapering near the short ribs, and neatly proportioned; back shaped like that of a roach; tail very short, and never carried high. The dog The dog must be 'short-faced,' and the nose well set back—the further the better between the eyes, and the teeth upper and under, should be well displayed. Weight from 20 to 65 lbs.

Toy Bulldogs have of recent years achieved considerable popularity as a breed, especially in France. They possess few of the characteristics of the heavier breed, with faces less 'set back,' and heavy bat-ears.

The Doque de Bordeaux is a species of B. employed as a bull-batter in the bull rings in the S. of France. It has the appearance of a cross between a B, and a mastiff, and is steadily growing in popularity among breeders in this country. When crossed with other breeds, especially with the mastiff, the B. tends to become vicious and even dangerous, and this cross is much in demand among night-watchmen and persons who have the charge of premises during the night.

Bullen, Frank Thomas, British author, born at Paddington in 1857; left school in 1866 to become an errand boy. Led an adventurous life. Went lish breed, because of the prevalence to sea in 1869, and made many ges, becoming chief mate at one

Left thesea in 1883, and entered Meteorological Office, where he ined till 1899. Amongst his remained till 1899. many works may be mentioned The Cruise of the 'Cachalot;' Idylls of the Critise of the Cachaid; lagins of the Sea; The Log of a Sea-Yaif; With Christ at Sea; The Apostles of the South Sea; Deep Sea Plunderings; A Whaleman's Wife; Creatures of the Sea; has also written many stories,

articles, and essays, Buller, Charles (1806-48), a British politician, b. at Calcutta; educated at Harrow, Edinburgh, and Cambridge. In 1830 he entered parliament as representative of West Looe, and voted for the Reform Bill, by which his constituency ceased to exist. In 1832 he was returned for Liskeard. In 1838 he went to Canada as secretary to

head of the intelligence dept., and in 1884-5 as chief of the staff in the Soudan War, receiving the K.C.B. in 1885. He became a quartermaster-general in 1887, and also Under-Secretary for Ireland, in 1890 was promoted to adjutant-general, in 1891 to lieutenant-general, and in 1894 received the G.C.B. In 1898 he obtained the command of the First Army Corps and the Aldershot Garrison, and in 1899 became commanding general of the British forces in S. Africa, and later general officer commanding in Natal. Owing to several severe reverses round Ladysmith he was superseded by Lord Roberts, and after engaging in the expulsion of the Boers from Natal. returned to Eng-land in 1900. He became commander of the First Army Corps at Aldershot, but was retired in 1901 in consequence of an imprudent speech. Sev. unfortunate facts concerning his S. African leadership became public, and he left the army in 1906. Buller, Sir Walter Lowry-Lawyer

(1838-1906), a celebrated ornithologist, whose contributions to science form one of the chief factors in his brilliant career, was born in New Zea-land, and was educated at Wesley College, Auckland. Took a prominent place in the affairs of the Maoris, appointedgov.-interpreter at Wellington in 1855. Created magistrate in 1862; came to England in 1871; summoned to the bar in 1874. Titles of F.R.S., C.M.G., K.C.M.G., and S.C.D. of Cambridge conferred on him account of services to science.

Bullet, a solid projectile discharged from small-arms of all kinds, in opposition to the larger missiles used by the artillery. In the old smooth-bore muskets, accuracy of aim was spoiled by various difficulties, such as the pressure of the gas generated by the discharge, and the fact that the projectile must always be smaller in diameter than the hore of the gun.

Lord Durham; in 1841 became secretary to the Board of Control; in 1846 was appointed judge-advocategeneral, and in 1847 became chief poor law commissioner. Buller, Sir Redvers Henry (18391908), Eng. general, b. near Crediton,
Devonshire. In 1860 he served in
China; in 1870 in the Red R. expedir
campaigns. In the Kaffir and Zulu
campaigns. In these last he specially ing B., for which, twenty-one years
distinguished himself, and won the
later, he received a reward of £1000
V.C. for the rescue of three comrades.
In 1881 he served in the Boer War as
chief of the staff to Sir Evelyn Wood;
force of the discharge drove into the
chief of the staff to Sir Evelyn Wood;
force of the discharge drove into the
chief of the staff to Sir Evelyn Wood;
force of the discharge drove into the
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chief of the staff to Sir Evelyn Wood;
force of the discharge drove into the
chief of the staff to Sir Evelyn Wood;
force of the discharge drove into the
chief of the staff to Sir Evelyn Wood; The result of this expansion is to prevent windage, and to communicate a twist to the B. which enables it to travel steadily. Greener's invention was never made practical use of, as the gov. objected to its complication Meanwhile, in France, Capt. Delvigne had also perfected a new form of rifle. with a similar kind of B., and this was introduced into the Fr. army. About 1849 a further step was made by Capt. Minié, a Frenchman, who in-vented a cylindro-conoidal (in the earlier patterns only conoidal) B. The plug was discarded in favour of a hemispherical iron cup, which served the same purpose. In 1851, the Minié rifle was introduced into the British army. The introduction in the Minié rifle of an elongated B. made the use of the muzzle-loading rifle somewhat more easy, but the breech-loading rifle was soon in use. Most difficulties had now been overcome. The boring gave the B. the twist necessary to enable it to keep its course, the ex-pansion enabled it to grip the bore properly so that B. and bore had one axis. The use of the cylindral B. now made it possible to diminish the size of the bore, while retaining a heavy Thus came the introduction of small-bore rifles, where the B. was made longer still. It was, of course, essential that the weight of the B. should not be diminished too much. A result of this lengthening was that rifles were made with a greater twist in the grooving. The B., to be of use, has to travel point foremost. It is kept in position by the rotation communicated to it from the barrel, and so any lengthening of the B. causes it to require greater rotation to keep it from drooping or deflecting. Further, to prevent deflection, some early Bs. were furnished with circular grooves. If they turned at all, the wind caught in these and returned them to their original direction. The Bs. for large bore ritles had been formed of lead, This early caused the invention of the system of rifling the bore, and hence came a revolution, also, in the form

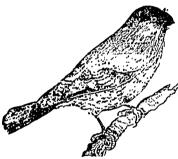
rapid a rotation. Hence, the small-bore B. is generally covered with some harder metal. No expansion of this can take place, and so the B, is made slightly larger in diameter than the bore it will pass through. The dumdum, or expanding B., has the lead exposed at the end, and so expands when it strikes. Its use is now forbidden in civilised warfare.

Bulletin, a Fr. word which has been imported into the Eng. language, signifying a short authentic account of some passing event, intended for the information of the public. B. is derived from bulla, a sealed despatch. When kings and other persons of high rank are dangerously ill, daily Bs. are issued by the physicians relative to the state of the patient. The B. des Lois is the Fr. Statute Book.

Combats of men with Bull-fight. bulls have for long been a favourite national sport with certain of the Latin races. They appear to have been common in Greece and Rome, and still exist in Portugal, France, Mexico, and especially in Spain, where they were abolished by Charles IV., but re-introduced by Joseph Bonaparte. Bs. are now held in all the large towns of Spain, particularly in Madrid, either for personal profit or for charitable objects. The bulls are bred in Castilia and Andalusia, the former being preferred. The most famous fights are held in the Plaza de Toros at Madrid, a kind of open-air circus, surrounded by tiers of seats and boxes, and capable of accommodating 10,000 to 12,000 people. The entertainment begins with a processional entry of the combatants, in which the matadors lead, being followed by th dores, and or attendants er

saluting the mayor, the picadores, dressed in a picturesque national costume, armed with lances, mounted on worn-out horses, take up their position in the centre of the arena. A bull is then let out, and the picadores attack it with their lances. The horses are urged on by attendants with sticks, who are dressed in blue and red, and when a horse is either wounded or throws its rider, the banderilleros attract the attention of the bull by waving their red and yellow capes while the picador makes his escape. The banderilleros save themselves by leaping over the barri-After the picadores have cades. fought for some time, they leave the ring and are succeeded by the banderilleros, who infuriate the bull by means of banderillas. These are gailycoloured and ornamented barbed in Europe. In Amedatrs, about 2 ft. long, sometimes is given to membe having fire-crackers attached to them I family, or Siluridæ.

which the men stick into the animal's neck. Finally a matador, bearing a naked sword and a 'muleta,' or vermilion flag, enters and salutes the mayor. He lures the bull by means of the red cloth, and as it blindly rushes at him, steps aside and stabs it between the left shoulder and the blade. usually killing it in a short time by means of this or some other stroke. As soon as the bull is dead, the per-formance recommences with a fresh animal, and should the matador, as occasionally happens, be fatally gored by the bull, another matador takes his place. Eight or ten bulls are often killed in one day, and the slaughter of horses is very large and involves revolting cruelty. Successful matadors achieve immense popularity and are able to retire with large fortunes. The two most famous have been Rafael Guerra, or Guerrita, and Manuel Esparto. Bs. have lately been introduced into France, and are becoming increasingly popular.



BULLFINCH

Bullfinch, or Pyrrhula vulgaris, is a passeriform bird of the family Fringillide. and differs from other finches in the thickness of its head and neck. It is a favourite cage bird.

Bullfrog, or Rana Catesbiana, a species of Ranidæ, is a N. American frog which utters a bellowing noise, and thus obtains its name. It is aquatic, green in colour, and reaches

a length of seven inches.

Bullhead, or Miller's Thumb, is the popular name of Cottus, the typical genus of the Cottidee. The species are usually found near sea-coasts in the pools, but may also occur in fresh water. They are ugly, spinous fishes, with broad, depressed heads, and are of no value as food. C. scorpius and C. bubalis are common marine species in Europe. In America the name B. is given to members of the cat-fish

Bulli, in New South Wales, the was frequently injured by the debas-Pass.

own illustrations, and was the first to siderable. In England the B. is comed print plants in colour. From his at the royal mint.

works may be quoted Flore parisition, and the colour plants. Herbier de la France. Tree-son plants (1784), and treatises on poisonous the purpose of causing rain. It conplants (1784), and mushrooms (1792) sists of a rectangular slat of wood fledid much to popularise his science. If the purpose of the purpose

gastropod molluscs of the genus Eulhyneura, which occur in both the living and the fossil state. The chief genera are Bulla and Acera. They are found at various depths of the oceans of Europe, America, Asia, and

Australia.

Bullinger, Heinrich (1504-75), Swiss reformer and Protestant theologian, was born at Bremgarten, the son of a priest who, himself, later embraced the reformed faith. During his studies at Cologne he gained a first-hand knowledge of the Bible and an acquaintance with Luther's works. He studied for a time under Zwingli, whom in 1528 he accompanied to the Bern Conference. In 1529 he married an ex-nun, and was made pastor at Bremgarten, which city he gained to the Reformers. the Reformers. On the death of Zwingli at Cappel in 1531, he left Bremgarten and took refuge at Zurich, where he became chief pastor and champion of the Protestants. The Helretic Confession, pub. in 1566, was largely his work. See C. Pestalozzi's Leben, 1858, and R. Christopher's H. Bullinger, 1875.

Bullion, term denoting the precious metals of gold and silver in their refined condition, before they are coined or otherwise manufactured. Though this is the true sense of the word, it is often extended, in speaking of exportation, to include the coined metal; also. The values of B. as a means of exchange are too numerous to men-tion, as barter is a process which must Bulls and Bears. In the slang of the necessarily die out at the beginning of Stock Exchange 'Bulls' are men who

merce, it has of course been necessary to arrange that in all civilised nations the B. should be made with a standard quantity of precious metal in proportion to its alloy. In earlier times this is somewhat ferocious as a house-dog, was not so, and in the middle ages it but is gentle and affectionate to its will be remembered how commerce owner.

headquarters of the Bulli Mining ing of the coinage. Though, even now. Company; famed for glorious Bulli matters are not so arranged that equal quantities of the B. of various countries Bulliard, Pierre (c.1742-93), a botan-ist, used to design and engrave his difference is so small as to be incon-own illustrations, and was the first to siderable. In England the B. is coined

edid much to popularise his science. From about on, wo let do by one end to Bullidæ, the name of a family of to 2 in, wide, suspended by one end to stropod molluses of the genus a cord, the latter often being prouthuneura, which occur in both the vided with a wooden handle. It is vided with a wooden handle. It is whirled rapidly about the head, and the noise of the air against the slat produces a roaring or whizzing sound. Among some Australian tribes it is thought to be employed for the purpose of frightening the women away from tribal councils or religious orgies, the females being told that it is the voice of the presiding god or demon. But in N. America it is, or was, used as an instrument of sympathetic magic, its noise being supposed to represent that of the wind which accompanies rain, and it is employed to induce by mimicry the actual wind itself. The Warali Indians believe it to be the voice of the Thunder-Bird, whilst by some other tribes, strangely enough, it is used to invoke fair weather. It is sometimes also sounded to warn initiated persons at a distance that certain rites are

about to be proceeded with.

Bull Run River, small riv. in Virginia, U.S.A., which has given its name to two battles fought in the neighbourhood during the civil war: (1) July 21, 1861, when the Northern troops, under M'Dowell, were utterly defeated by the Confederates under Beauregard. (2) August 29, 1862, when the Union forces under Pope, who was attempting to guard the Potomac line, were crushed by the Confederate forces under Lee, rein-

civilisation. Gold and silver are the have nominally bought stock, but age or use; the coins have to be made incon who have sold stock which they do veniently small; they are capable of easily receiving and retaining an impress. Since gold and silver are so universally used as a medium of commerce it has been as a m with no intention of paying, hoping

Bull-terrier, a cross-breed of bulldog and terrier. The B is a very strong, plucky dog, and a fearless fighter, with infinite determination. It It has short, smooth hair,

which should preferably be white in a good breed, but may be reddish. brown, or fawn. It weighs from 20 to 50 lbs., but some toy varieties have been produced which weigh as little as 7 lbs. The tail is left uncropped, and should be carried in a straight line with the back; the front legs firm and straight, and the jaw strong. White Bs. are permitted black markings on the nose, ear, and eye.

Bull Trout is a term applied to various species of Salmo, which are natives of N. Europe, and belong to the Salmonidee, or family of trout, salmon, and charr. The name is fre-quently applied to S. eriox and S. cambricus, also known as the grey trout. S. trutta possesses this name as well as those of sea trout, salmon

well as those of sea trout, salmon trout, sewin, and phinok.

Bulmer, William (1757–1830), a printer of the 18th century, celebrated for his production of the Boydell Shakespeare, which consists of nine vols. folio, with a vol. of engravings called The Shakespeare Gallery, 1803. Bewick, an intimate friend of B., illustrated the book. B. also writted other certified in the salmon with the salmon also printed other costly editions, such

as Milton (1793-7, 3 vols. folio), and Goldsmith (1795, 4to).

Bülow, Bernhard Henry Martin Charles von (b. 1849), Chancellor of Ger. empire, born at Klein, Flottbeck, plants which grow in marshy ground Holstein; educated at Frankfort-on, and bog Holstein; educated at Frankfort-on, and bog the Main and other schools; went Typha to the universities of Lausanne, sometin Leipzig, and Berlin. Joined the and cat Prussian regiment of Royal Hussars and did military service as long black cylindrical mass, the lieutenant in the campaign of 1870. Yellow male flowers above and the Entered the diplomatic service in brown female below. The perianth 1873, where he served under the rôle is represented by long hairs, there are of attaché in the foreign offices at one to five monadelphous stamens, Berlin and Rome successively. He was then appointed secretary of legation in 1875, and secretary of legation in 1875, and secretary of the Berlin Congress, in 1878. After this, held successively belongs to the Cyperaceæ; its stems the positions of first secretary of the sembassy at Paris. first secretary of the sembassy at Paris. first secretary of the embassy at Paris, first secretary of the and the seats of making mats, bassets, embassy at Paris, first secretary of the and the seats of chairs. Pennisedum embassy of St. Petersburg, 1883; typhoideum, an Indian species of minister at Bucharest, 1883; and Gramineæ, is the pearl millet, or B. ambassador at Rome, 1893. He was Bulsar, seaport of India, in Bengal, then appointed Prussian minister of 15 m. N. of Bombay. It exports state, and finally received the appropriate of Ger imperial chanceller. pointment of Ger. imperial chancellor in 1900.

Prussian general, was born at Falken-

checked. In 1815 he arrived too late to share in the battle at Ligny, but he played the chief part in the victory at Waterloo. He died at Königsberg. Bülow, Hans Guido von (1830-94),

Ger. planist and composer, was born at Dresden, the son of Karl Eduard B.. a noted author. He early began the study of music, at first as part of his general education, for he was intended general education, for he was intended for the legal profession. He studied under Wieck and Liszt, and soon de-cided to make music his life-study. For a time he visited Wagner to study conducting, but he soon came back to Liszt, whose daughter he married in 1857. In 1864 he became chief of the orchestra of the Theatre Bayal at Yunich and director of the Royal at Munich and director of the . Conservatorium. Here he organised and produced the works of Wagner with exceptional talent. In 1869 his wife divorced him and married Wagner, but this did not dim his enthusiasm for that writer's work. For a time B. stayed at Florence, but then he undertook a vast concert tour through England and America. He died at Cairo. B. was a pianist of the very first class, and a talented conductor. His own compositions are few, though his taste and critical ability were remarkable.

Bulrush is the name given to sev.

Bulsar, seaport of India, in Bengal, 115 m. N. of Bombay. It exports some timber. Pop. 14,000. Bulthaupt, Heinrich (b. 1849), Ger.

in 1900.
author, dramatist, and poet, born at
Bülow, Friedrich Wilhelm (1755- Bremen, Appointed librarian of the
1816), Count of Dennewitz and Bremen Library in 1878. Has written Prussian general, was born at Falken-berg, and entered the army in 1768. dramas include Die Arbeiler, 1876; He had already had fair experience of Eine neue Well, 1886; and Der Ver-war, when in 1813 he took up arms lorene Sohn, 1889. He has also conwar, when in 1813 he took up arms lorene Sohn, 1889. He has also conagainst France. He carned great distributed a vol. of poems called Durch tinction at Gros Beeren, a victory Frost und Gluthen. Other works gained almost entirely by his general-, which have brought him into prominship, and at Dennewitz, where Naence are Dramaturpic des Schauspiels, poleon's advance on Berlin was 1884, which has run through sev. eds., Dramaturgie der Oper, and Shake-speare und der Naturalismus, 1893.

Bulti, or Baltistan, the northern part of Kashmir, India, once an

independent state.

Buluwayo, or Bulawayo, cap. of Matabeleland, prov. of Rhodesia, S. Africa. It stands on a table-land between the Limpopo and Zambesi rivs., 400 m. W. of Beira, the nearest port. Originally it was the site of the royal kraal of Lobengula, by whose father it was founded. During the Matabele wars of 1896, B. was successfully defended, and the town now contains a monument in memory of

the colonists killed on that occasion. Bulwark, British battleship, one of later ships of Formidable class, 400 ft. long, of 15,000 tons, and 18

knots. Launched 1899. Bulwer, Sir Henry Lytton Earle (1801-72), an Eng. diplomatist and author, was the elder brother of Lord Lytton. He was employed on diplomatic service at the Hague, Brussels, and Vienna, and in 1830 elected parl. representative of Wilton. He later sat for Coventry, and from 1835-37 represented Marylebone, in each case in the Liberal interest. In 1837 he became attached to the British embassy at Constantinople, and his success here was such that in 1843 he was made minister-plenipotentiary to the court at Madrid. Here he offended Narvaez, who secured his withdrawal on the accusation of complicity in certain plots. In 1849 he was sent to Washington, and in 1858 to Constantinople. In 1851 he was made G.C.B., and in 1871 he became Baron Dalling. His works include France, Social, Literary, and Political, 1834; Historical Characters, 1868-70; and a

Life of Viscount Palmerston, 1870.
Bulwer, John. M.D. (fl. 1654), a physician, was the first to write, in Eng., on the methods of imparting leaves. knowledge to the deaf and dumb. Except that he was himself a teacher of the deaf and dumb, nothing is known of his private life. Chirologia (1644), or The Natural Language of the Hand, Philocophus, and Patho-

myotamia, are his chief works. Bulwer, Wm. H., see Dalling,

BARON.

Bulwer-Lytton, Sir Edward, see

LYTTON.

Bumboat, a small boat employed to carry provisions, etc., from land to vessels lying in port or near the shore These boats are generally managed by women.

Bunbury, in Western Australia. a seaport and tn. in the co. of Wellington; its famous harbour Koombanah has breakwater constructed on a coral Chief exports are coal, tin, timber, and agricultural produce.

Bunbury, Sir Henry Edward (1778-1860), seventh Bart., purchased in 1797 a military command, after sev. years of training. He took a prominent part in the diplomatic service connected with the Napoleonic wars, and was, in addition, Under-Secretary of State for War under the Portland administration. In 1830 he became member of parliament for Suffolk. He was the author of several works, of which the chief is the Narrative of Certain Passages in the Late War with France, 1852, dealing with the Peninsular War and the period which

preceded it. Bunbury, Henry William (1750-1811), Eng. caricaturist, born at Mildenhall, Suffolk, was the son of Sir William B. He was educated at Westminster and Cambridge, and his faculty for caricature early showed itself. He never attempted political subjects, thus keeping himself good terms with all parties, but his humorous drawings became so famous as to give him rank with his contemporaries Rowlandson and Gillray. He was never forced to trust to his talent for his livelihood. Examples of his work are 'The Country Club' and 'The Barber's Shop.

Buncrana, a market tn. and water-

ing-place of co. Donegal, Ireland, on Lough Swilly. There is some fishery and trade in agricultural produce, and the town is well situated.

about 1000.

Bundaberg, a port of Queensland, Australia, near the mouth of the R. Burnett, 270 m. N. of Brisbane by rail. It has saw-mills, breweries, etc., and is the centre of a sugar-making district. Pop. 5000.

Bundelcund or Bundelkhand, a dist.

of Upper India lying between the rivs. Chambal and Jumna, including five provs.: Banda, Jalaun, Jhansi, Lalitpur, and Hamirpur, and a collection of native states known as the B. Agency. The dist. is rich in rivers, vet the streams are so unsuitable for irrigation that it has to be largely artificial. There are valuable diamond mines, particularly near Panna, and some minerals are found. Area 9851 square miles. Pop. (1901) 1,308,326. Bundesrath. This council, together

with the Reichstag, forms the present federal gov. in Germany since 1871. The B. consists of fifty-eight delegates chosen by the govs. of the different states for each session, whilst the Reichstag, or popular assembly, contains members chosen solely by the people. The King of Prussia presides over both under the title of Emperor of Germany. The B. is the superior governing body, and can withhold measures passed by the Reichstag; on the other hand, a member of the B.

is not eligible for election in the! Reichstag.

Bundi, native state of India. agency of Rajputana. It is wild and crossed by two ranges of hills. The R. Mej drains it, and there are no railways. Chief tn., Bundi. Area 2250 sq. m. Pop. about 200,000.

Bundoran, vil. and watering-place of co. Donegal, Ireland, on Donegal Bay, 4 m. S.W. of Ballyshannon. Pop. under 1000.

Bungalow (Anglo-Indian word from Bangla, Bengalese), a onestoried house with a verandah, and a pyramidal roof, generally thatched. It is the kind of house in general use by Europeans in India. Dak Bs. are gov. erections for the use of travellers in the interior of India. The name is now often given in England and America to light erections for seaside and holiday use.

Bungay, a market tn. of Suffolk on the R. Waveney. It has two parish churches of interest architecturally, and large printing works, and malt trade. Pop. (1901) 3314.

Bungener, Louis Félix (1814-74), a Fr. Protestant theologian, was born at Marseilles, of Ger. parentage, and studied theology at Geneva. He then taught there from 1843 till 1848. He pub. sev. works written as novels, but each intended to defend some principle each intended to defend some principle of Protestantism. Of these may be named: Un Sermon sous Louis XIV. (7th ed. 1881); Histoire du Concile de Trente (2nd ed. 1854); Trois Sermons sous Louis XV. (6th ed. 1902); Christ et le Siècle (1856); Rome et la Principle (6th ed. 1860); Calvin, sa vic. Almost all have been translated into English and German.

Bunion, an inflamed swelling of the Bursæ mucosæ, or synovial sacs, occurring most commonly over the metataroso-phalangeal joint of the first or fifth toe. This may be accompanied by corns or suppuration, and generally causes distortion of the the joint. The most common cause of Bs. is pressure produced by badly-fitting footgear, but the tendency may be hereditary. A cure may be effected by the removal of the cause of inflammation and treatment with soothing dressings, but in bad cases a surgical operation may be necessary. The word may be derived from It. buppone, a swelling which is probably of the same origin as Old Eng. bunny,

buigne, modern bigne.

Bunium is a name sometimes used for a genus of umbelliferous plants which are now included in the Carum and Conopodium genera. B. flexuosum, or Conopodium denudatum, is

Europe found commonly in Britain. The tuberous roots have an aromatic sweet taste and are edible when boiled or roasted. Pigs which are allowed to feed on them get fat, as they contain much nutriment.

Bunker's Hill, small hill in Boston, Mass., U.S.A., which gave its name to the battle between the English and Americans which began the War of Independence, 1775. The Eng., under Howe, only succeeded in carrying the position at the third assault, and at enormous loss. The Americans, mostly hastily-levied volunteers, were under Colonel Prescott.

Bunkum, mere speaking for the sake of the newspapers or any humbug. Phrase arose in 1820, when, in the United States Congress, the member for Buncombe, N. Carolina, rose to speak. He had apparently nothing to say, and members began to leave. He continued, telling the others they could go also, but his electors expected a speech from him and he was only

speaking for Buncombe.

Bunsen, Christian Charles Josias. Baron von (1791-1860), a noted Ger. scholar and diplomatist, born at Korbach, in the principality of Waldeck. His studies at Marburg were chiefly on theology, but in 1809 he went to Göttingen University, where he gave much attention to philology. In 1813 he won the university prize essay with the treatise De jure Atheniensium Heredilario, and after a stay at Copenhagen for the study of Icclandic, he came to Berlin in 1815. Here he bear a came to be a with the historian to the came to be a with the historian to the came to the Description of the Prussian embassy at Rome. Before this, though, he had studied Persian and Arabic under Silvestre de Sacy, and had, in 1817, married Frances Waddington, by whom his Memoirs were later pub. In 1822 Friedrich Wilhelm II. visited Rome and was greatly pleased by the frankness and learning of the secretary. In 1821, therefore, on the retirement of Niebuhr, B. succeeded him as resident minister. During his stay at Rome, B.'s researches led him in many directions, but chiefly to Egyptology. 1838, having become involved in the

also meaning a swelling, and Old Fr. numerous works may be named: Die Basiliken des Christlichen Roms, 1843; Egyptens Stelle in der Weltgeschichte, 1844-57.

Bunsen, Robert Wilhelm (1811-99). Ger. chemist and physician, born at Gottingen, where he pursued his early the earth- or pig-nut. a native of studies, afterwards completing them

at Paris, Berlin, and Vienna. In 1836 is in Germany. he became professor of chemistry at the Polytechnic Institute of Cassel, whence three years later he passed to Marburg. In 1852 he was made professor at Heidelberg University, and here he spent the rest of his life. was one of the greatest teachers of chemistry, but rigidly abstained from theoretical discussion. Hence no school has risen under his name, in spite of the great number of his pupils have who made their name chemists. His publications are extremely numerous, and his discoveries are valuable. The burner which bears his name is known by all, and his charcoal pile is little less famous. His researches on cacodyl, begun in 1837, cost him the use of one eye, and almost proved fatal. Even before this he had discovered the use of hydrated ferric oxide as an antidote to arsenic. He was also the first to obtain magnesium in a metallic state. But the greatest of his achievements was the discovery, in company with his friend Kirchhoff, of the spectrum analysis, a discovery which has proved of inestimable value both to chemists and astronomers. Among his works are: Enumeratio ac Descriptio Hygrometro-rum. 1830; Gasometrische Methoden,

1857; and numerous pamphlets.
Bunsen Burner, a burner invented by Robert Wilhelm B., of Heidelberg, when that university felt the need of some means of burning ordinary coal-gas perfectly, so as to leave no sooty deposit on articles being heated. It applies the blowpipe principle, mixing air with the gas. The lighting power is thus diminished, the heating

nower increased, and combustion made complete.

Bunsen Cell, a voltaic cell which contains a plate of zinc surrounded by sulphuric acid and a carbon plate surrounded by nitric acid, the two plates being separated by a porous partition of unglazed earthenware. It was invented in 1841 by R. W. von Bunsen, the German chemist, who employed it to produce the electric arc. It is still employed in Germany for a variety of purposes, but has practin England.

to a fungus 172 vheat, and with a shown as Tuteria feeters or T. trilici. The wheat attacked becomes bluey-green, and the grains are filled with black spores, which give an unpleasant odour and earn for the fungus the name of Stinking Smut.

Bunter (Ger. bunter sandstein, variegated sandstone), in geology, a series of rocks forming the lowest division of the Triassic system. It consists of variegated red sandstones and con-glomerates. Their principal exposure

They may be subdivided as follows: (1) Lower B., consisting of fine red sandstone, with a thickness of as much as 700 ft.; (2) Middle B., of coarse sandstone, with a thickness of 1000 ft.; (3) Upper B., of red and green marls, varying in thick-In England it occurs chiefly in the Midlands. Few fossils have been found in English and German beds. but plant life is represented by ferns and conifers.

Bunyan

Bunting, or Emberiza, is a genus of the family Fringillide, which comprises many well-known species. citrinella, the yellow B. or yellow hammer, is the commonest British species; others are E. nivalis, the

snow B., and E. cia, the meadow B. Bunting, a light, loosely-woven woollen stuff used for flags. Hence, collectively, flags-especially a ship's colours. Used also for bathing-dresses. Drapes well, and is used for decora-

tions on festive occasions.

Bunting, Jabez (1779-1858), an Eng. Wesleyan minister, was born at Manchester, where he entered the ministry at the age of nineteen. He was four times president of the conference, and in 1835 was made president of the Weslevan theological college. first For twenty years he was secretary to the Missionary Society. He may almost be considered the founder of

the Wesleyan polity.

Buntingford, a tn. of Hertfordshire.
12 m. N.E. of Hertford, and seat of

the Poor Law Union.

Bunyan, John (1628-88), author of the Pilgrim's Progress, was born at Elstow, near Bedford. Members of his family, under the name Buingnon, lived in Bedfordshire as far back as 1199, whilst the grandfather of his own grandfather was a certain Thomas Bonyon (fl. 1542), a common brewer of beer and a common baker of of beer' and a 'common baker of human bread.' His mother died in 1642, and soon after this he was drafted by a local levy into the parl, army. The war at an end. he returned to his native place. He thus describes his marriage in 1649 with a religious wife: This woman and I came together as

poor as poor might be, not having so much household stuff as a dish or spoon betwixt us both.' She brought with her a book of her father's, en-Plain Man's Pathway titled Heaven, which exerted a powerful influence over her husband, as may be seen in his Life and Death of Mr. Bad-man, 1680. It was about this time that he underwent, like Blake and Cowper, many strange religious ex-periences. He had been very fond of ringing the bells of Elstow Church, but was induced to forego this harmless pleasure, as he believed the steeple would fall on his head did he

arrested in a game of tip-cat by a voice which threatened him with hell if he did not repent him of his wicked-Many long hours he spent in prayer, but it was a hard battle before he could finally renounce his pet vice of dancing on the village green. In his Grace Abounding he vividly de-scribes the agony of his sufferings at this period. Dreadful hallucinations banished sleep from him at nights. He began to think, for instance, that he could have no faith unless he performed miracles, and that he would! not be saved because he was not a But the clouds child of Israel. vanished and an active life healed his morbid imaginings. In 1653 he joined a dissenting community, and two years later began to preach in neighbouring villages. His first book, Some Gospel Truths Opened, 1656, is a truly remarkable production, considering Buononcini, or Bononcini, Giovanni mritings against the followers of Maria (1640-78), It. composer, born in Maria (1640-78), It. composer, born in Modena, studied in Bologna. Entered service of Francis II., Duke of Modena, was confined to Bedford County Gaol as 'a common upholder of several Giovanni in Monti. Wrote many inmanded for twelve years. He spent in strumental and vocal compositions mortal Pilgrim's Processing Service of Francis II., Duke of Modena, became maestro di capella' of San and the theoretical mortal Pilgrim's Processing Service of Francis II., Duke of Modena, service of Francis II., Duke of Modena, service of Francis II., Duke of Modena, strumental and vocal compositions and the theoretical mortal Pilgrim's Processing Service of Francis II., Duke of Modena, strumental and vocal compositions and the theoretical mortal Pilgrim's Processing Service of Francis II., Duke of Modena, service of Francis III., Duke of Modena, service of his time writing and began his immortal Pilgrim's Progress. After the Declaration of Indulgence he was

Buol-Shauenstein, Karl Ferdinand,

persist in this crime. One time he was 'Count von (1797-1865), Austrian diplomatist, was himself the son of a statesman. He was minister successively at Carlsruhe, Stuttgart, Turin, and St. Petersburg. After assisting at the Dresden Conference, he became ambassador at London in 1851. He later returned to Austria to control foreign affairs. He died at Vienna.

Buoy

Buonarroti, M. Angelo, see MICHAEL ANGELO.

Buonarroti, Michael Angelo, the Younger, see Angelo Buonarroti. Buonfede, Appiano (1716-93), It. philosopher, was appointed to a professorship of theology at Naples in 1740. Later he joined the religious brotherhood of the Celestines, and became, in course of time, general of that order. His Della Restaurazione di ogni Filosofia ne' Secoli, 1789, one of many works, gives a good account of 16th-century philosophy (Italian). Buoninsegna, see Duccio di Buo-

used as a guide to navigation or for released, and was chosen pastor to the purpose of mooring ships. Moor-his old church, but when the Declara- inz-buoys are made of wood or iron, tion was repealed, he was sent to the source was a Nonconformist preacher. On regaining his freedom he took up his pastoral work once more, and continued it till his death on Snow at the gloomy graveyard of Bunhill, Holborn. He was buried in the gloomy graveyard of Bunhill, Fields Whilst his Holy War, 1682, is shonly inferior to Pilgrim's Progress as an allegory, the latter is, of course, and legory, the latter is, of course, and should be kept on the starboard-beauty of its biblical language, its bould be kept on the starboard-board variety of its biblical language, its language, it tion was repealed, he was sent to the and are used in places where anchor-Mits. ing a domed top are called 'spherical' and Vanity Fair, and above all the Bs., and mark the ends of middle passion of its religious fervour grounds. In the above definition, Christian's pilgrimage from the City starboard-hand means the right side of Destruction to the Celestial City of the vessel in ascending a river or Christian's pilgrimage from the City of Destruction to the Celestial City of the vessel in ascending a river or has brought comfort and joy to men estuary, or in going with the main all the world over. Life by Froude. stream of the flood of the tide on the Bunzlau, a tn. of Prussian Silesia, coast. In Scotland it is established on the Bober, 27 m. from Liegmiz by that conical Bs. should be painted rail. It manufs. earthenware, woollen red, and can Bs. black; spherical Bs. goods, and linen goods, and has conare painted with horizontal white score distinguishing tructures. Broad-Spanners of Kerl Fardinand. whistles, or distinguishing structures

other than the foregoing are used for special positions. Bell-buoys actuated by the undulating of the waves; lights are provided by compressed oil gas, though acetylene and electricity are sometimes used; whistling is effected by the provision of a hollow cylinder extending some 30 ft. downwards; the up and down motion of the B. produces an inhalation and expulsion of air from this chamber. and the whistle is blown in a fitful manner corresponding to the motion of the waves. Wreck Bs. are painted green, and bear the word 'wreck.

Buoyancy, that property by which a body tends to float in water. The pressure upwards on a floating body is equal to the weight of the body, and that weight is equal to the weight of the water displaced by the immersed part. That is to say, if the floating body were removed, the space occupied by the immersed part would be filled up by water, and there would still be equilibrium. If a ship has a certain draught line to which she may safely be loaded, the measure of her B. may be taken as the additional weight required to bring the draught line on a level with the water.

Bupalus (fl. 540 B.C.), Gk. sculptor, with whom his brother, Athenis, is always associated, belongs to the school of sculpture in Chios at a time when its history just ceases to be legendary. The brothers never adlegendary. vanced to the representation of the nude: all their figures (carved in marble) were draped. B. did a figure of Tyche (Fortune) and also the Graces for the Temple of Nemesis in

Smyrna.

Bupalus is a genus of lepidopterous insects of the family Geometridæ, in which the wings are erect in repose and the larvæ have ten legs. B. Dinarius, the bordered white moth, is beautiful species found in the

locality of fir-trees.

Buphaga is a genus of birds of the starling family, or Sturnide. B. Africana, the ox-pecker is generally seen in companies of seven or eight, attending a herd of buffaloes or antelopes.

Bupleurum (Gk. βοῦς, οχ, πλευρὸν, side) is a genus of plants of the order Umbelliferæ, which are natives of temperate climates in most parts of the world, and are remarkable for The British their simple leaves. species are known by the name of hare's ear or buplever, and obtain the generic name from a supposition that B. they are injurious to cattle. throw-wax. rolundifolium, the

thorow-wax, has perfoliate leaves. Buprestide is the name of a family of coleopterous insects which have short antennæ and are very brightly Blackfi

coloured. Green is the most common colour, but blue, red, gold, and copper are also frequent, and have a burnished appearance, They live on the trunks of trees, crawl slowly, but when on the wing fly rapidly.

Buquoy, or Bouquoy, Karl Bona-ventura de Longueval (1571-1621), field-marshal of 16th century, born at Arras, of French origin, he enlisted on the side of Austria, and took part in the campaigns of the Rhine during the years 1596-99. Maurice of Nassau defeated him near Nieuwpoort in 1600. Nothing daunted, however, B. laid siege to Ostend and took possession of 's Hertogenbosch. He was made commander of the imperial forces in Bohemia in 1618, and made a valiant and successful struggle against Bethlen Cabor, leader of the Hungarian troops and Bohemian emigrants, was wounded in the battle of the White Mountain, 1621, died in a new expedition at the siege of Neuhausal in the same year.

Bur, or Burr, a slight ridge of metal raised on edges of a line engraved by burin, rocker, or dry Usually removed by a scraper, as it retains too much ink in printing the plate, producing the effect of a smear. Sometimes left to produce a peculiar effect of its own. Seymour Haden and other etchers often keep it; so does Rembrandt. In mezzotint-engravings the whole effect comes from the bur.

Bur, or Burr, is the name given to a fruit which has developed a process like a hooked spine to aid it in its distribution. The hook catches in the fur of a passing animal, and is either carried away by it. or the fruit jerks off as the plant is released from the fur. A. Lappa, the burdock, is a

common example. Buran, a very violent sandstorm and snowstorm occurring in Central Asia, or even in the Caucasus and on the outskirts of Siberia. The storm heralds itself in a peculiar manner, and comes on quite suddenly. sky becomes inky black, and the atmosphere is choking, on account of the clouds of fine sand blown along by the wind, which tears along at a remarkable velocity. Sometimes the wind is so cutting that it brings along in its train fine particles of partially frozen snow. There are two kinds of By, the kara-buran or black storm, and the sarik-buran or yellow storm. Burano, is, and tn. of N. Italy, 5 m. N.E. of Venice. Some fishing, and

important lace-making industry. Pop 7000. Burbage, James (d. 1597), one of the

most f times.

financial help.

Burbage, Richard (1567-1619). great Elizabethan actor, son of the above; in spite of his short and stout figure, played with immediate success the leading parts in most of Ben Jonson's dramas, whilst, from the poetical epitaph on him, it is known that he was famous for his impersonations of Hamlet, Lear, Othello, and, above all, Richard III. He acted at the Blackfriars and the Globe Theatre, the latter of which he built himself.

Burbot, or Eel-pout, the common name of Lota vulgaris, a species of the Gadidæ, or cod family, related to the whiting, haddock, and ling, and remarkable as being the only fresh-water fish of its family. It is an elongated fish, with a broad head, large mouth, and well-developed barbel, and is found in rivers of Britain. L. maculosa is the American burbot.

Burchiello, It. poet of the 15th century. Date of birth uncertain, died at Rome in 1448; his real name, Domeni di Giovanni. A very original poet, who practised the trade of barber, and whose shop was the meeting-place of all the literary wits in Florence; his shop was situated halfway down the Street di Calimala. Very little the Street di Calimala. Very little known about B.'s personal history. From internal evidence afforded by his poems, it seems that he was imprisoned at one period in his life for some offence. However, he seems to have kept his friends, chief amongst whom stands Il Doni. B. belongs to that class of poets called satirists, and his verses are distinctly frank in their licence, but this was a characteristic of the times. His poems are sonnets, and belong to the comic burlesque type. This type of poetry was very popular in the 15th century, and he had many imitators after his death who strove to write 'alla Burchiel-Different opinions as to the merit of B.'s poems; some held him to be a genius little short of Dante or Petrarch, whilst others considered him as merely 'a poetic buffoon.' Il Doni wrote a commentary on his poems, which is as obscure as the text of the poems themselves.

Burckhardt, John Lewis 1817), Swiss traveller, accepte offer of Sir Joseph Banks, a m

of the African Association, to explore the hinterland of Africa. Disguising himself as a Mussulman, he spent two

built the Globe with Shakespeare's far as Mahass, and after traversing the Nubian desert, succeeded, under the guise of a Syrian merchant, in making the pilgrimage to Mecca, by way of Jiddah. He also journeyed to Mt. Sinai, but was prevented by death joining the caravan which travelled towards Fezzan, whence he had intended to explore the sources of the Niger. The results of his travels were published in his journals.

Burdekin, a riv. of Queensland, Australia, rises not far from the coast. to which it runs almost parallel till it

empties itself in Upstart Bay. Burden, capacity of a vessel, weight of cargo that she will carry, stated as

a certain number of tons.

Burden, a law term in Scotland, signifying any encumbrance or restriction on property of any kind. It must be secured legally, with a form stating the exact sum of money and the names of the persons concerned, given under the hand of the creditor.

given under the hand of the creditor. In the case of a B. on land, registration in the Register of Sasines is also essential. See the Scottish Land Titles Acts, 1868 and 1874.

Burder, George (1752-1832), Congregationalist pastor, after being minister in turn of the Independent Church, Lancaster, 1778-83, and of the West Orchard Chapel, Coventry, 1783, 1833, was preacher at Fotter. 1783-1803, was preacher at Fetter Lane Chapel for the remainder of his. life. Besides being honorary secretary to the London Missionary Society, he was editor of the Evangelical Magazine, and, above all, author of the remarkably popular Village Sermons. Burdett, Sir Francis (1770-1844).

English politician, was the son of Francis B., and the grandson of Sir Robert B., Bart. He was educated at Westminster and Oxford, and after wards travelled for some time in France and Switzerland. The French Revolution probably did much to mould his political opinions. He entered parliament in 1796, having three years earlier married the heiress of the banker Coutts, and became distinguished from the first as an advocate of freedom and of radical opinions. He frequently denounced the war with France, and was a strong

gained it. He was arrested by order of the House for breach of privilege. himself as a Mussulman, ne spent two ine having caused one or his specches years in Asia, during which he act to be published. His arrest took some quired so complete a mastery over Arabic and over the contents of the Koran, that he passed among the natives themselves as a learned doctor of their law. After visiting Palmyra, Damaseus, and Lebanon, he went to Cairo. In 1812 he went up the Nile as the passing of a reform bill and the he having caused one of his speeches

taking away of Catholic disabilities. He put forward reform schemes, and even suggested such reforms as adult male suffrage, equal electoral districts, vote by ballot, and annual parliaments. In 1820 he was again imprisoned for his denunciation of the Manchester massacres, and was fined £1000 and imprisoned for three months. He saw the Catholic Relief Bill passed in 1829, after he had made vain attempts to pass a similar measure in 1825, 1827, and 1828. After the passing of the Reform Act his active policy ceased, and he seemed satisfied with the victory which had been gained for freedom and reform. He continued to sit in parliament until his death, usually, however, voting with the Conservatives. He had left his former seat at Westminster, and at the time of his death represented North Wiltshire.

Burdett, Sir Henry Charles (b. 1947), son of Rev. Halford Burdett. M.A., of Gilmorton co., Leicester: distinguished author and statist; made K.C.B., 1897, and K.C.V.O., 1900. At Wales; National Debts of the World; Municipal, County, and Indian Indian Finance; Seventeen Years of Securities; various articles on railways, water companies, hospitals, asylums, sanita-

tributed by his able pen.

Burdett-Coutts, Angela Georgina,
Baroness (1814-1906), daughter of Sir Francis Burdett, was born April 21, 1511. In 1837 she inherited almost all the great wealth of her grandfather, Sir Thomas Coutts, left by the will of his widow, the Duchess of St. Albans, once Henrietta Mellon, the actress. Many offers of marriage were made her, but she resolved to remain single, Bartlett, who assumed her name, and was several times elected as member involuere are hooked and spinous of parliament for Westminster. In when the fruit is ripe, and assist in its 1871 she was created a pecress, and in dispersal. See Bur. 1871 she was created a piecress, and in 1872 she was presented with the free dom of the City of London, being the first woman to receive this privilege.

She died on Dec. 30, 1906, and was the second son of Richard Burdon, buried at Westminster Abber. Here who took the additional name of phillanthropic exertions were on such sangerson on his marriage with Eliza-a vast scale that it is difficult to find any dept. of life they did not touch. First may be mentioned her work for keenly interested in natural science the Church. Besides taking in hand

the building and endowment of many churches and church-schools, she also endowed the three bishoprics of Cape Town, Adelaide, and British Columbia. When the Spitalfields silk trade began to fail, she estab. sewing-classes there, and she also organised the Shoeblacks' Brigade. Her love for her own sex caused her to do much for reformatories, and to secure great improvements in the education of girls at the national schools. In 1570 she established Columbia Fish Market at Bethnal Green, but this effort was unsuccessful. Her interest in emigration was great, and she did much to aid in this work. In 1877 she organised the Turkish Compassionate Fund. Even folk so far distant as the Australian aborigines were helped by her, and the lower animals also received mitigation of their sufferings, for she greatly assisted the Society for

the Prevention of Cruelty to Animals.

Burdett-Coutts, William Lehman
Ashmead-Bartlett (b. 1851), born in
the U.S.A., his parents the late Ellis
Bartlett of Plymouth, New England,
and Sophia, daughter of John Ashmead of Philadelphia. Married the
Countess Burdett-Coutts in 1881 and one time superintendent of the Queen Hospital, Birmingham, and of the mead of Philadelphia. Married the Seaman's Hospital, Greenwich; many Countess Burdett-Coutts in 1881 and publications on financial topics, in-assumed her name. Graduated at cluding Burdett's Official Intelligence Kelle College, Oxford. Went out to of British, American, and Foreign the Russo-Turkish War as special Securities (17 vols.); The National commissioner, 1877. Keenlyinterested in philanthropical and social questions and opened the Columbia Fish tions, and opened the Columbia Fish and Vegetable Market. Deeply interested in Irish questions, greatly assisted the Baroness Burdett-Coutts in her plans for aiding the Irish fishermen. Was instrumental in passtion, nursing, old age pensions, and fishermen. Was instrumental in pass-other philanthropical schemes con- ing the Hampstead Hell aggregates and the Hampstead Hell aggregates and the participant Hell aggregat made Parliament Hill, as well as 300 acres, public recreation ground, 1885. Went out to S. Africa as Times cor respondent in 1900, when a royal commission of inquiry was held with regard to the state of the soldiers. other contributions Amongst literature, a vol. on the Russo-Turkish War appeared in print.

Burdock, or Arctium Lappa, is a common British species of Compositæ and to devote her vast wealth to the which is often found growing by road-cause of philanthropy. In 1881, how-sides. It occurs also in Asia and on ever, she married William Ashmead, the Continent, and is the single which is often found growing by roadspecies of its genus. The leaves of the

came to London as practising physician in 1853; and appointed medical registrar, then lecturer, at St. Mary's Hospital, London. In 1867 elected fellow of the Royal Society and Croonian lecturer. In 1870 devoted himself to scientific research. Appointments to London University and University College, London, in 1871. Invited to Oxford; degrees of 1871. Invited to Oxford; degrees of M.A., D.M., were bestowed on him. Initiator of new English school of experimental work in pathological and physiological research. Especially in-terested in functions of living tissues. Created baronet in 1899.

Burdur, in Asia Minor, a tn. which is situated in Turkey Minor, and is 65 m. distant from Adalia on the N.N.W. side.

Burdwan, the name of a tn. and dist. of Bengal, British India. The tn. is on the E. Indian Railway, 67 m. N.W. of Calcutta. The dist., which lies along the Hugli R. (area 2689 sq. m.), has indigo and iron works, and a thriving silk industry. Pop. (1901) 35,022.

Burdy, Samuel, author, 18th century; curate first at Ardglass, 1783; promoted to Kilclief, 1800. His Life of Skelton (1792) is one of Ireland's literary treasures. Amongst other poems, he wrote Ardglass, or the

Ruined Castles, 1802.

Bure, in Norfolk, Eng. riv., 50 m. long, joining the Yare at Yarmouth. Bureau (Fr. bureau, coarse cloth used as a covering) denotes a 'desk,' or writing-table. By metonymy the meaning is transferred from the desk to the business office or dept. of gov., and further to any group of officials. The word B. is used particularly to mean a gov. dept., especially in France. In the U.S.A. B. means a subdivision of a great executive dept., e.g. the Bureau of Statistics, a dept. of the Treasury Dept.

Bureaucracy, a term signifying gov. by depts., each ruled over by its separate chief, as opposed to gov. by ministers, owing a collective or associated responsibility to the people, and hence the word is often loosely

used to mean officialism, red-tapeism. Burette, an apparatus used in pracmovement of the top of the column class (918 A.D.).
with greater accuracy.

Bürger, Gottfried August (1748-94),

Burford, a tn. on the Windrush, in was the sc-the Woodstock div. of Oxfordshire, 1764 he England. Historical interest attaches Halle as

to the university of Edinburgh in itself to Burford Priory, and also to 1847, took his M.D. degree in 1851; the place itself, as the scene of the the place itself, as the scene of the overthrow of Ethelbald of Mercia by Cuthred of Wessex (752 A.D.). Pop. under 2000.

Burg, a tn. of Saxony, Germany, 15 m. N.E. of Magdeburg by rail. It has important manufs. of cloth and boots. Its prosperity is largely due to the Fr. and Walloon immigrants who came

after the edict of Nantes. Pop. (1900) 22,432.

Burgage Holding and Tenure. tenure denotes the particular feudal service or tenure of houses or tenements in ancient cities or boroughs. The incidents of this tenure, which prevailed in Normandy as well as in England, vary according to the particular customs of each borough (q.v. and BURGESS). It is generally considered to be a species of socage tenure, as it was usually held either at a pecuniary rent or for services having no relation to military service. The present importance of the tenure is mainly in regard to the borough franchise. B. holding is one of the franchise. B. holding is one of the forms of feudal tenure in Scotland, and is that by which burghs-royal (see Burghs) hold of the crown the lands contained in their charters of erection. Property held on this tenure is at the present day practically all allodial.

Burgas, a port of Eastern Rumelia, Bulgaria, on the Gulf of Burgas, in the Black Sea. It has a considerable transit trade, and large exports of agric, produce, and also of clay for pipes and pottery. Pop. 12,846.
Burgdorf (Fr. Berthoud), a tn. in the

canton of Bern, Switzerland, on the R. Emme, 14 m. N.E. of Bern. It has silk and cloth-making industries. is a picturesque tn., and its castle was the seat in which Pestalozzi set up his school, 1798-1804. Pop. (1900) 8404.

Burgee, Eastern term signifying of a tn. or castle.' The dynasty of Cir-cassian Memlooks (slaves), also called

dynasty of Burgee.

Burger is the German synonym for freeman.' Most of the men who in-habited Germania at the time of Tacitus were freemen. Each freeman carried arms, had slaves, and usually possessed land. The freemen attended the assemblies of the vil., hundred, and tribe. Charlemagne (800 - 807 tical chemistry for delivering meas- and tribe. Charlemagne (800 - 807 ured quantities of a liquid. It consists a.D.) excluded the common freemen of a graduated cylindrical tube fitted from the national diets, and limited with a stop-cock. A small glass float their rights by enforcing arduous with a fine horizontal line engraved military service, etc. Henry the upon it may be used at the surface Fowler, King of Saxony, did much to of the liquid to indicate the extent of advance the interests of the burgher movement, of the top of the column

> Ιn of

but

he early gave up theology for juris-prudence. As he here led a life of dissipation, his grandfather, who was educating him, recalled him, but allowed him to pass into Göttingen University as a law student in 1768. His friendship with men of literary tastes saved him from his evil habits. Stimulated by his readings of Shake-speare and Percy's Reliques, he pub. his first poems in the Musenalmanach, of which he himself became editor in of which he himsen became either in 1778. He was later appointed 'amtmann,' or dist. magistrate, of Altengleichen. As a ballad writer, his popularity spread far and wide. Such ballads as Lenore (1773), Der wilde Jäger, and Das Lied vom braven Manne are almost unequalled for dramatic intensity, virility of style, and atmospheric surgestiveness. His and atmospheric suggestiveness. His three marriages were all unhappy. During his first wife's lifetime he had a child by her sister, the 'Molly' of his poems, whom afterwards married. He divorced his third wife in 1792. Monetary embarrassment due to speculations and ill-health seem not altogether unnatural at the close of his unhappy life, yet his sonnets and elegies prove him a lover of the beautiful, and his generosity and kindliness of heart pass unchallenged. Burgers, Thomas François (1834-

81), president of the Transvaal, an inhab. of Cape Colony, and minister of the Dutch Reformed Church. Elected president by the Boers, 1872, in a most critical period of the history of the Transvaal. Kruger systematically opposed B.'s policy, with the result that the Boers refused to pay taxes, and entered into warfare with Secocoeni, a native chief. Transvaal was also menaced by the Zulus. At this crisis England appointed Sir Theophilus Shepstone to inquire into matters; B. was compelled to resign, and the annexation of the Transvaal was formally declared in 1877.

Burgess (Low Lat. burgensis, a citizen; Fr. bourg, city) formerly meant simply an inhabitant of a bor. or a leading craftsman in a guild be-longing to a bor. Gradually the term B. came to be applied to a freeman of a bor. possessing a tenement in a bor.

summoned fo

liament regularly from the time of the Model Parliament, 1295. The creation in 1835 of the 'municipal corporation 'as a unit of self-government included that of a uniform qualification nchise. That as the old B.

the same as, b extensive with franchise. The

enrolment on the D. lon as a rate-paying occupier of a house or other building in the bor. or within 7 m. of it. Women may be Bs., and are now also eligible for corporate office. Where the bor is a city, the Bs. are called 'citizens.' Bs., together with the mayor and aldermen, acting by a council elected by the general body of qualified corporators, form the governing body of a municipal corporation. See also Burgh.

Burgess, John Bagnold (1829-97), a British painter, born in London. He studied in the Royal Academy, and later lived for some years in Spain. whence he chose the greater part of his subjects. Made A.R.A. in 1877. Among his best known pictures are: 'Bravo Toro,' 1865; 'Stolen by Bravo Toro, 1865; Stolen by Gypsies, 1868; Visit to the Nursery, 1870; Licensing Beggars in Spain, 1877.

Burgess Hill, a tn. in Sussex, England, which lies 8 m. N. of Brighton. Burgh corresponds to the Eng. borough.' Means a Scottish town possessing incorporation and a local (generally petty) jurisdiction. Scotch Bs. are of four kinds: (a) Bs. of Barony: Corporations composed of the inhab. of defined lands within a barony and municipally governed by magistrates, whose election is in the hands either of the baron of the dist. or the inhab. themselves. (b) Free Bs.: Formerly Bs. of barony, en-franchised by crown charter with trading rights and subject to the same burdens as royal Bs. Practically all present Bs. as well as those that originally gained their charters are free Bs. now, as a result of the gradual suppression of commercial monopoly. (c) Bs. of Regality: Enfranchised Bs. of spiritual or temporal baronies, which, from the enjoyment of regal which, from the supportant of resar or exclusive criminal jurisdiction con:
the trealm or Commons in parliament. were called regalities. (a) Royau Bs.:
In 1964 Simo:
writs for a constitution, and privileges to constitution, and privileges to royal charter, either expressly

zens from each city and two Bs. from conferred or presumed to have been each bor to sit with the knights of the shire, thus eliminating the barrier which had hitherto kept them apart. From this union spring the bulk of our national liberties. The Bs. or royal Bs. but sending representatives of bors. attended parton parliament, e.g. Falkirk, Leith, Formerly only royal Bs.

Hamilton. for Scotland extends the meaning of B. and defines it to mean all Bs. and populous places whose boundaries have been fixed. The act further pro-vides that the sheriff may, on the representation of seven or more householders, fix the boundaries, and thereby constitute a B. for purposes of local gov. The jurisdiction of B. magistrates is practically restricted to police offences, payment of B. dues,

and summary ejections.

Burgh, Hubert de (d. 1243), most famous of an English noble family of the Middle Ages. Served Richard Cœur-de-Lion, then John, siding with

power, fell into disfavour (1232), and Shakelost his influence at court. speare's account (King John) is un-Consult Stubbs' Constitutional History of England, vol. ii., 1896.

Burghersdorp, a tn. of Cape Colony, near banks of Stormberg Spruit, on railway to Aliwal North, about 39 m. from it. Important market. Was in Boer hands early in S. African War.

Pop. over 2000.

Burghley, William Cecil, see BUR-

Burgin, George B. (b. 1856), author, secretary of Author's Club, 1905-8; joint hon, sec. of New Vagabond Club; writer of many books, amongst which may be mentioned: His Lordship and Others, 1894; The Judge of the Four Corners, 1896; Old Man's Marriage, 1897; The Bread of Tears, 1899. Later works are: The Devil's Due, 1905; Which Woman, 1907; The Trickster, 1909; The Belle of Santiago, 1911; and

Dickie Dilver, 1912. Burgkmair, Hans (1473-1531), Ger. painter and wood-engraver, was a friend of Albert Dürer, and father-inlaw to Holbein the elder. His renown rests on his woodcuts-nearly 700 in all—which are truly remarkable for their faithful presentation of contemporary life, and for their dramatic strength. Especially noteworthy are his engravings for The Triumph of his engravings for "the triumpa of Maximilian," and a Ger. translation of Petrarch's 'Fortune.' A portrait of himself and wife may be seen in Vienna, whilst the galleries of Munich, Politic and Augsberg, his native place. Berlin, and Augsberg, his native place, possess examples of his work.

Burglary (through Old Fr. from Lat. burgi latrocinium, known in old Eng.

The General Police Act | with intent to commit a felony. The laws on the subject are regulated by an Act of 1861. Various definitions are required to make the matter clear. Breaking may be either by forcing open a closed window, door, etc., by some necessary aperture such as a chimney, or by collusion with servant or inmate of the house. Ιt may be before the felony, to secure entrance, or after it, to secure escape. For entry it is sufficient that the hand or arm should be inserted. A dwelling-house is any permanent building in which the owner or some tenant sleeps. Any building or outhouse forms part of the dwelling-house only if it be connected with the same either directly or by an enclosed passage. Night is defined as the period between 9 p.m. and 6 a.m. Fr. fleet, 1217. About 1221, with The 1 unishment for B. is penal servi-Langton, Hubert became regent for tude for life, or any period not less Henry III. After rising to great than three years' penal servitude. or After rising to great than three years' penal servitude, or o disfavour (1232), and two years' imprisonment. If the offence be committed by day, or in some place other than a dwelling house, it is not B., but housebreaking. In Scotland, all cases fall under the law of housebreaking, and the name 'B.' is not used. In the United States, on the contrary, B. is made to cover many cases of housebreaking, and is never punished by penal servitude for life.

Bürglen, a Swiss vil. in the canton of Uri, is the reputed bp. of William Tell. Pop. 1478. Tell.

Burgomaster, title of chief magistrate of a city. It corresponds to the Eng. 'mayor' and Scotch 'provost.'

Burgon, John William (1813-88), Eng. divine. His bp. was Smyrna, and his father was a Turkish merchant. His mother was a Greck. was educated at Worcester College. Oxford, which he entered in 1841, and where he gained an Oriel fellowship. His brother-in-law, John Henry Rose. had a decided influence upon him. He was made vicar of St. Mary's, due not a little to some attention he had drawn by an attack upon Essays and Reviews. A proposal to institute a fresh lectionary for the Anglican Church aroused his strenuous opposition, which was expressed in the Quarterly Review. In 1876 he was appointed dean of Chichester. Under the title of Twelve Good Men he pub. his biographical essays on H. L. Mansell and others. He died on August 4.

Burgos, a prov. of Spain. It is situated in the N., and has for its boundaries Biscay and Alava, N.E.: Lozrono, E.; Soria, S.E.; Segovia, S.; Valladolid, S.W.; Palencia, W.; and Santander, N.W. Areá 5480 sq. m. In the N. the surface is mountainous, and the lower parts are a partism law as hamsorna), in Eng. common In the N. the surface is mountainous, law, is defined as the breaking and entering a dwelling-house by night, of the plateau of Old Castile. Parts

on him the He served

In the E. is 6995 ft. The eastern extremity. Cerro de San Millan, 6995 ft. Ebro traverses the prov., but is not navigable, while the Douro, equally valueless, flows through the southern The temperature varies considerably, the average being 61' F. Only in the valleys is agriculture of any use owing to a paucity of rain, but live-stock are reared with great success. Sheep are the prin. animals reared. There are minor deposits of salt, coal, and china-clay, and though the industries embrace pottery, stonequarrying, tanning, and linen and cotton manufs., they are in an un-developed state. A poor system of rail communication explains this backward state of things. The cap. of the prov. is Burgos, the only tn. of any importance. Its pop. is 30,167, and it is to be classed among wretched parts of the cou population to the more provs. of the Basque and is encouraged, if not almost enforced,

by the miserable educational opportunities and the widely scattered nature of the different hamlets in the prov. Hence the pop. has no signifi-cant increase. The tn. is full of anti-quarian treasures, and the archite-tural objects of interest are its citadel (884), the Casa del Cordon (15th century), and the barracks. Its cathedral is a splendid specimen of Gothic architecture, and is constructed of white limestone. The town wears a white limestone. picturesque appearance, and has manufs, of leather and paper goods. Pop. of prov. (1900) 335, 328. Burgoyne, John (1722-92), English

general. He entered the army at an early age, and was also at an early age compelled to sell out in order to pay his debts. His youth was further distinguished by his runaway mar-riage with the daughter of the Earl of Derby. He spent the years following the selling of his commission abroad, but was, by the influence of his father-in-law, restored to his rank in the army in 1758. He became the the army in 1755. He became the first commander of light infantry in the British army in 1759. He became an M.P. in 1761, and was made a brigadier-general in the following year. At the close of the Seven Years' War he devoted his time to politics and the drama, his first play being produced in 1775. In that year, on the outbreak of hostilities with the American colonists, he was appointed

of the Cantabrians are in the north- but when B. returned he demanded but did not get a trial. He was deprived of all his appointments, but was restored to them in 1782. retired, however, practically into private life, and occupied his time with dramatic work. His most popular work. The Heiress, appeared in In 1808 his poetical and 1786. dramatic works were published.

Burgoyne, Sir John Fox, Bart. (1782-1871), Eng. field-marshal. He was a natural son of John B., an Eng. general and dramatist, and Susan Caulfield, an opera singer. His education was obtained at Eton and Woolwich. He obtained his com-mission in 1798, and two years later served in the Mediterranean. In 1809 he was raised to a captain under Wellesley at the Douro, and his genius, exhibited in the skill of his of Bada-

that ensued after Waterloo as chairman of the Irish Board of Public Works. Later he served with distinction at Later he served with distinction at the Crimea, and was created in 1856 baronet and general. He became field-marshal three years later, and died on Oct. 7.

Burgstadt, th. in Saxony, Germany,

35 m. S.E. of Leipzig. Manufs, stockings, linen, gloves; cotton printing and wool-weaving are also carried on. Pop. 7040.

Burgsteinfurt, a tn. in prov. of Westphalia, Prussia, 17½ m. N.W. of Munster, on the Aa. Pop. (1900) 5208. Burguillos, a tn. in the prov. of

Badajoz, Spain. Pop. over 6000.

Burgundii, The, were a tribe of Northern Germany, who early estab. themselves about the source of the Mein. Although they took part in the great barbaric invasion of Rome in 406, they were often loyal allies of the Roms. against the Huns and Franks. In 475 they occupied the Rhone valley. They had adopted Christianity before Clothair, the Frankish king, finally put an end to their kingdom in 534.

Burgundy, formerly an independent monarchy, at present a province of France. Its earliest inhab, were a Ger. tribe who have extended their settlement from the banks of the Oder and Vistula to the Rhine and Neckar. A defeat by the Huns, followed by the chaos resulting from the decay of the Rom. empire, saw American colonists, he was appointed the decay of the Rom. Empire, saw to the command of a division, and them holding sway over the whole made a fatal attempt to attack the colonists from Canada. He was surrounded at Saratoga by General Christianity later, and in 534 were conquered by the Franks. In 832 Gates and the American army, and forced to surrender with 3500 men. Indignation in England was great, a later absorption of the prov. by the

and lack of bitterness. It is used in customs of many lands and ages.

medicine for plasters, and acts as a Europe.—Palæolithic burials

mild irritant. d'Or, the department which, together with Yonne and Saône-et-Loire, corresponds to the old district of Burgundy. Beaume is the centre of the district and of the trade. The most celebrated red wines are Romanee, Chambertin, Richebourg, and Clos Vougeot, while the finest white Bur-gundies are those of Mont Rachat and Chablis. The celebrated Hospice de Beaume derives its revenues from some of these vineyards.

Burhanpur, a tn. in the dist. of Nimar, India. It is situated on the Tapti. Tapti. Its trade is declining, though it still produces manufs. in cotton, stilk, and brocade. For the last named of these goods B. formerly enjoyed some reputation. The tn. is of Mohammedan foundation, which took place in A.D. 1400. Pop. (1901) 33.343. Burial, Customs and Laws of. From the earliest times definite customs

and manners have crystallised around the act of human sepulture, and in numerous instances these bear a striking similarity to one another, although widely separated by circumstances of time and geography. It is stances of time and geography. It is well known, for example, that many primitive peoples, both prehistoric and modern, bury their dead in the fætal posture, that is with knees drawn up to the chin, and placed upright in the grave dug to receive the body. Primitive man regards the carth as his mother, and deems it only fitting that his remains should be fitting that his remains should be returned to her in the position in which he was originally supposed to have occupied in her womb. Early burial customs in many countries bear traces of fire, and show that crema-

Germans saw its gradual decomposition into a number of small states, smeared over the remains—the first all of which were finally taken over attempt at mummification. In the all of which were finally taken over attempt at mummification. In the by France. It now comprises the evolution of burial customs we can depts of Ain, Côte-d'0r, Saône-et distinctly trace the various steps as Loire, and Yonne, and is world-famous follow: Eating of dead kindred, in for its wines. Its prin. tns. are Dijon order to partake of their virtues, Macon, Autun, Châlon-sur-Saône, and Bourg.

Burgundy Pitch, a yellowish-white resin prepared from common frankincense, the exudation of the Norway spruce-fir (Abies excelsa), by melting in hot water and separating it from the greater part of the oil which it that these methods came into use contains. B. P. is hard and brittle, one after another in any one sphere, and can be distinguished from its but that this is an ideal course of their many imitations by its pleasant smell evolution culled from the mortuary many imitations by its pleasant smell evolution culled from the mortuary

Europe.—Palæolithic burials are seldom encountered in Europe, and Burgundy Wines, the fine and consisted chiefly in placing the reworld-famous wines produced from mains in caves or similar retreats. It is very unlikely that any fixed bathed slopes of the low hills of Côte-custom attached to the disposal of d'Or, the department which, together remains until at least later Paleco-like and the consistence of the constant of the con lithic times. In Neolithic times fœtal inhumation was probably customary. but in some centres cremation and burial in stone cists and urns pre-vailed. In later Neolithic times burial in barrows or mounds obtained. The shape of these varied with race, the long-skulled aborigines who preceded the Celts in Europe placing their dead in long barrows, whilst the round-skulled Celts buried theirs in round barrows. Many of these barrows are honeycombed with graves, and yield rich results to the archaeologist, who usually discovers therein tools and weapons of the Bronze period. It was customary for the early races of Europe, and indeed for primitive races all over the globe, to inter with their dead such articles as they considered would be necessary for their comfort in the world of shadows, and it is fortunate for modern archæology that primitive graves have yielded these in abundance. Graves of the Bronze Age all over Europe bear a great resemblance over Europe bear a great resemblance to one another. In Greece and Rome cremation was resorted to. Burials of the early Christian period were usually made in catacombs, such as those at Rome, where the bodies were placed in niches in the walls, and their resting-places decorated with paintings and sculpture. Outside of the Roman sphere of influence burial in Roman sphere of influence burial in Europe retained its primitive character, the offering of objects to the manes of the deceased being almost universal. With the introduction of Christianity, however, sepulture in consecrated ground began to be regarded as essential for the good tion after inhumation was resorted to garded as essential for the good Later a rude effort at preservation health of the soul, and this obtained of the corpse was attempted, as in throughout the middle ages, and to

that universally the practice of sepulture was regarded as perhaps the fittest way of preventing the spirit of the dead from tormenting or annoying the living, and the massive cenotaph and the stake driven through the breast of the criminal are equally the breast of the criminal are equally eloquent of this desire. Propitiation of the manes of the deceased is seen in Europe in the custom which until recently obtained in Northumber-land of sacrificing domestic animals prior to the burial of the dead, and even a trace of human sacrifice may be preserved in the custom at Highland funerals of the friends of the dead person fighting until blood was drawn-an example of the substitution of the part for the whole. Even the practice of the eating of dead kindred is typified all over Britain by the revolting custom of 'sin-eating, in which a paid person devours a piece of bread and cheese or a cake and drinks a mug of ale over the coffined body of the dead. Until the beginning of last century the burial of a gipsy chief was often accompanied by the sacrifice of his horse. either as a propitiation to his spirit. or because it was regarded as essential to his comfort in the next world.

Asia.—Burial in early Palestine appears to have been effected in caves, and similar places where the corpse would not be readily got at by beasts of prey. In Mohammedan countries in hundred in the countries in the control of the countries in th countries inhumation in cemeteries is common, and the turban cut in stone. the symbol of the Moslem faith, is usually found upon the graves. Burial is carried out in much the same manner as in European countries, except that it is accompanied by the ritual of the Mohammedan faith, which consists for the most part of following the dead to the graveside and there bewailing his demise and reciting his good qualities. In India the Parsee caste expose the dead on the summits of towers, where they are devoured by birds of prey. The splendid tombs of Hindustan are eloquent witnesses of the manner of disposing of the dead which obtains among those of the Brahman faith.

In China, wh the national is constructe

departed about ten feet high by twelve feet deep. This contains various apartments, and a paper image of the dead is placed inside it, with paper models of food and all necessaries. The deceased is after-

some extent is still looked upon as and in Japan, Burmah, Korea, and desirable. There is very little doubt the Mongolian peninsulas consist of burial according to the rites of ceremonial Buddhism.

America.-In America many of the customs alluded to as prevalent in prehistoric times obtain. Thus interment in mounds and stone cists or caves is frequent, but tribal custom often dictates methods of sepulture which are strictly adhered to. Thus the Mohawks formerly made a large round hole in which the body was placed in a squatting posture, after which it was covered with timber and Some Carolina tribes placed the corpse on a cane hurdle and de-posited it in an outhouse for a day. It was then wrapped in cane matting or rushes and deposited in a grave, logs or stone slabs being placed over it so that the earth might not fall on the body. The Creeks and Seminoles of Florida generally buried their dead in a circular pit about four feet deep, the corpse with a blanket or cloth wrapped about it being placed in a sitting posture, the legs bent under and tied together. It seems to have been prevalent in the N.W., as well as in the E. and S.E., to remove the flesh by previous burial or otherwise, and then to tie the bones together in bundles and bury them in communal pits. The body was usually placed in a horizontal position on its back. Wooden vaults are also sometimes found, as are dome-shaped stone Sometimes clay was spread vaults. over the corpse and fire applied before burial. Sometimes even mummifi-cation was practised. Aerial sepulture in trees and upon raised platforms, burial in lodges, in canoes and urns, are other American modes of disposing of the dead. In S. America very similar methods are in vogue, the habit of scraping the bones and hanging them up in baskets in trees or at the doors of lodges being very common. Mummi-fication was practised in ancient Peru. Africa.—The funerary customs of

Egypt are too well known to require lengthy description. There were three modes of mummification, undertaken by a special caste who were abhorrent to the rest of the population, namely,

mummy was placed in a rock-cut tomb, surrounded with paintings representing objects supposed to be useful to it, and ushobtiu figurines which represented servants to attend to its requirements in Amenti or Hades. The modern tribes of the Soudan practise burial after the Mohamme-dan fashion, whilst those of Central Africa, if caunibals, often deyour the wards worshipped by his children. In China mourning materials are dan fashion, whilst those of Central white. Throughout Asia customs of Africa, if caunibals, often devour the sepulture differ but in minor details, corpse or a portion of it, and if noncannibal bury it, often with many strange ceremonies. Some tribes, however, merely take the body into the bush or forest and leave it to be devoured by wild animals.

In Polynesia until recently it was customary to devour a dead relative in order that his virtues might enter the bodies of his descendants. Among the Esquimaux burial by cance is often practised: and in Australia the nomad tribes either leave the body to rot, or bury it in the ordinary manner.

Burian, Stephen, Baron of Rajecz (b. 1851), Hungarian statesman, was imperial finance minister for Austria-Hungary, and, in 1904, governor of Bosnia-Herzegovina. For the eight years previous he had been minister to Greece. He has made a special

study of the Balkan question. Buriats, a race of Mongolians inhabiting the neighbourhood of Lake They resemble the Chinese Baikal. in their small slanting eyes and their pigtails. Their religion is Buddhism, though there are Shamanists and Christians among them. Contact with the Russians took place first in the 16th century, from which people they learned farming and irrigation, and in which occupations they excel the Russians themselves.

Buridan, Jean (c. 1297-c. 1358), Fr. philosopher. A native of Artois, he was educated by William of Occam at Paris. Later he became professor of philosophy in the university of that town. He became its rector in 1327. Under an ordinance of Louis XI, the reading of his works was prohibited. His philosophy is based upon the doctrines of his teacher Occam. His ideas in connection with free will, contained in his comments on Aristotle's Ethics,

bear a resemblance to Locke's.
Burigny, Jean L'Evesque de (1692-1785), man of letters, is remarkable for his extraordinary versatility and the volume of his publications, as well as for his erudition. Among his works biographies of Grotius Révolutions des del'Empire Constantinople, 1749.

a handsome species of Palmaceer found in S. America, especially in Brazil. It is one of the loftiest of palms, growing to a height of 100 to 120 ft., and it yields many useful products. Among these are a pulp from the fruits which is converted into a sweetmeat, a juice which makes a

date of his birth is hidden in some obscurity although it is most probable that he was born on Jan. 12, 1729. His birthplace was Dublin, where his father was at this time practising as an attorney. His father was a Protestant. a faith in which Edmund but his himself was brought up: mother belonged to the Roman Catholic faith, and this, together with the fact that his earliest schoolmaster belonged to the Society of Friends, gave him the foundations of the toleration which he later applied In 1743 he to religious questions. entered Trinity College, Dublin. where he studied hard but in a desultory fashion, making himself, however, well acquainted with the Latin



EDMUND BURKE

authors. He took his degree in 1748. and two years later came up to London to study law. His health at this time was weak, and he spent a great Erasmus. 1750 and 1757; a treatise on deal of his time travelling, and of papal authority, 1720; and a Histoire this period of his life we know little. de since there are no letters of his to be onstantinople, 1749. found which deal with it. In fact we Buriti Palm, or Maurilia vinifera, is find him later writing 'to atone' for his neglect of his chief correspondent, Richard Shackleton, the son of his old schoolmaster. In 1756 he seems to have been living near Temple Bar, and to have made the acquaintance of several well-known men, such, for example, as Garrick. During this period of his life his love for law had delicious beverage, and leaf-fibre used not been increased, and he showed for making mats.

an increasing disinclination to adopt for making mats.

Burke, Edmund (1729-97), English law as his profession and an increasstatesman. Very little is known of ling one to become a man of letters, the early life of B.. in fact the exact In 1755 his attitude towards law and

B. therefore set himself to work to gain a living for himself, and in 1756 appeared A Vindication of Natural Society. In this he imitated the style of Bolingbroke, and purporting to be a posthumous work, was intended as a reply and satire. As a satire it failed, but the style of the book attracted immediate attention to the author, and · in the same year his fame was raised to quite a high standard by the publication of the Philosophical Inquiry into the Origin of our Ideas on the Sublime and the Beautiful. This book attracted a considerable amount of 1756 B. married, his wife being the daughter of his medical man, Dr. Nugent. They had two sons, Richard, born in 1758, and Christopher, who died in his infancy. By 1756 we may definitely say that B.'s political ideas are fixed, and undergo from this time forward no great change. His mind was also turning from abstract speculation to the solution of the political and economic problems of the time. His interest in law was shown in his writings on English history, whilst his later interest in America was hinted at by the publication of An Account of the European Settlements in America. Regarding the latter book B. himself denied that he wrote it. he admitted only that he had revised His Abridgment of the History of England was partially printed during this year (1757), but was not pub-until after his death. In 1758, when the events of the Seven Years' War were just beginning to turn in our favour, B. put forward the idea of the Annual Register, a publication which was to give a review of the chief events and movements of the year. The first volume of this work appeared in 1759, and B.'s connection with the in 1739, and B.'s connection with the publication continued actually until 1788, and probably even after that date he had much to do with its publication. He gradually came to be well known in society, and in 1759 he became secretary to 'Single-speech Hamilton,' whose affairs occupied the whole of his time and prevented him doing any literary work says his work doing any literary work save his work with the Annual Register. He accomup his frier nolds, and .

his desultory career so displeased his as a talker and thinker ranked very father that he stopped his allowance. high indeed. Dr. Johnson's opinion of high indeed. Dr. Johnson's opinion of his powers of conversation was of the very highest, and this was no small compliment from the great doctor. He threw up his pension in 1764 owing to Hamilton's demands for the whole of his time and service. But his financial position at this time was not so bad as it had been, and from various of his acts about this time we are able to see that he had some command of money. In 1765 he was appointed private secretary to the Marquis of Rockingham, who had just been made prime minister. His appointment was the signal for the beof attention, and was translated by ginning of those slanders that never Lessing into German. Towards the end really ceased. He was a Papist and a

> Rockingham, and he can be said to have become from this time not only his secretary but also a personal friend. In 1765 he was returned for Wendover, and in the January of the following year, 1766, he took his seat and began his career as an active politician. He spoke on the American question and against his party when he made his maiden speech about a

and although his voice was harsh and his action awkward, he was soon one of the most eloquent and powerful speakers in the House. In 1766 the Rockingham ministry was over-thrown, and B. spent a short time in Ircland. He was on his return offered a post in the administration which the Earl of Chatham was forming, but declined to leave his old leader, and became during the session one of the leading members of the Opposition. He believed in fidelity to his party, but he did not follow the party too blindly, and allowed himself a fair amount of latitude in the giving of his votes. He was gradually making himself indispensable to his party, and in 1768 he purchased a house and an estate. During the period which immediately follows B. and his relative and friend (William B.) seem to have been in the greatest of financial distress and suffered great with the Annual Register. He accompanied his patron to Ireland when he inancial losses. B., however, still was made secretary to the Earl of lived the same extravagant and Halifax, and on their return to England (1763) B. was awarded a pension of £300 per annum. He remained with Hamilton until 1764, when his with Hamilton until 1764, when his patron lost office, and he returned to live with his father in-law. During policy of Grenville. He was much the whole touched the constitution.

He attacked the policy of the House towards the printing of reports of the proceedings, and was himself very bitterly attacked, being without the slightest foundation accused of authorship of the Letters of He was elected for conciliation. member for Bristol in this year, and introduced his famous resolutions for conciliation. In 1776, on the failure again of his attempts at conciliation, he withdrew practically from all debating on American questions, but he still played his part in the House. His speech against the employment of Indians in America was one of the most brilliant which he ever made The next few years were (1778).taken up with plans for economic reform, and with pleadings for Catholic relief. His known advocacy of Catholic relief measures roused not only the anger of the people of London, but also of his constituents at Bristol, who rejected him at the next election. The rejection of B. by Bristol was compared at a later date by Lord John Russell to the rejection of Macaulay by Edinburgh. He however received a seat at Malton at the rejected, but the fall of North's ministry in 1782 was due entirely to

House adopted towards the Wilkes a great extent responsible for the r. Luttrell elections. In 1770 drawing up of Fox's India Bill. His appeared his famous Thoughts on the acquiescence in the Coalition, how-Present Discontents. In this he put ever, rendered him no service, and forward the grievances of the people, after the dissolution he found himself and showed that the fault lay not treated with marked contempt by the with the people but with the gov., House, and he was continually rewith the court and its secret cabals. ceived with interruptions and jeers when he rose to speak. The accession of Pitt to power threw great obstacles in his way, but he determined to bring Hastings to book for his alleged misdeeds. At first his chance of success seemed small, but the Opposition took Junius. His home life was happy, the question up and ultimately the however, and he was pleased with impeachment moved by Fox was his work. In 1772 he visited France, accepted by Pitt. In 1788 he began and there saw Marie Antoinette at his famous speech on the impeachand there saw Marie Antoinette at his famous speech on the impeach-Versailles, a sight which he was to ment, a speech which he concluded remember. In 1774 began the famous with a brilliant peroration: his alliance between himself and Charles, labours only ended with Hastings' James Fox, who, a youth of twenty-five at this time, had been won over-by the influence of B. and always party. Even when it seemed likely regarded him as his political master. that his party would come to power From 1774 until the outbreak of war is claims for high office were over-in 1775 he was continually striving looked, and it was again decided to offer him the office of paymaster of the forces. He was extremely un-popular at this time, both in the House and in the country, and he had many differences even with members of his own party, gradually he was being drawn further and further away. In 1789 occurred the outbreak of the French Revolution, and B. was requested for a view of his ideas on the Revolution. His answer was practically the Reflections answer was practically the Reflections on the Revolution, a book which saw nothing but evil in the outbreak of a disordered mob against the rule of alw and order. The attack of the 'swinish multitude' could not be reconciled with his love of order. in which he alone saw liberty. His book created a great stir, it gave rise to at least two famous replies, The Rights of Man (Paine) and Findicia Galliciae (Mackintosh). It called forth the congratulations of the bingforth the congratulations of the kinghands of Rockingham. He again sovereigns of Europe. But it put an brought forward his motion for sovereigns of Europe. But it put an economic reform, which was again end to B.'s love of toleration; hence-mosted but the fall of North's forth in projected reform he saw only a sovereigns and he even opposed the revolution, and he even opposed the repeal of the Test and Corporation.

Acts. His opinions on the Revolution, ministry in 1782 was due entirely to the series of attacks made upon it by B. and Fox. On the formation of lacts. His opinions on the Revolution, the next Rockingham ministry he so widely different from those of his was not given cabinet rank, but he 'friend Fox, led to the withdrawal of became paymaster of the forces, an B. from the party he had so lone office which he tried to reform. In supported, and to a breach of his 1782 he lost his friend and leader friendship with Fox. His desertion Rockingham. The Shelburne administration was overthrown by the unnatural coalition of North and self said, 'Dear as was his friend, the Fox, a coalition which B. approved. love of his country was dearer still.' He accepted again the office of pay-hater his retirement from his party haster of the forces under the Port-he set himself to lead Whig thought land ministry and gave his attention back to the principles of 1688, and land ministry and gave his attention back to the principles of 1688, and to the question of India, he being to pub. his Appeal from the New to the

Old Whigs. He took little part in into the interior of Australia in 1860, parl. life during the next session, and when he did, opposed toleration. During the remainder of his life he continued to attack what he con-ceived to be the principles of the Revolution; he was still bitterly attacked by both Fox and Sheridan, and it must be owned that on occasion he laid himself open to their sarcasms. In 1795 the impeachment of Hastings ended, and in July of that year B. retired from parliament. his retirement was made easier for him by the grant of a pension, but the death of his only surviving son just after his election to parliament in succession to his father broke his in succession to his lather price has heart, and he retired to Beaconsfield a broken man. In 1796 he began the publication of the Letters on a Regicide Peace, but they were greatly delayed owing to his frequent and increasing illness. In 1797 his illness gradually became worse, and on July 9 he died. It was proposed that he should be buried in Westminster Abbey, but he had preferred the parish graveyard at Beaconsfield, and here he was borne to his last resting place by members of the 'Whigs whom he had converted to Conservatism.' 'There is but one event, but that is an event for the world—Burke is dead.' See Life by Sir J. Prior, and especially Lord Morley's Burke (English Men of Letters series), 1879.

Burke, John (1787-1848), genea-logist, early began seriously to stu genealogy. In 1826 he pub. Genealogical and Heraldic Dictions of the Peerage and Baronelage of United Kingdom, the first work of its

Encyclopædia of Heraldry. Burke, Sir John Bernard

92), British genealogist. He was in London and received his education here, afterwards in France. His father, John B., instituted the work which has since been issued annually, called Burke's Peerage. Sir John be-came Ulster King-at-Arms in 1853, and was knighted in the following year. He died at Dublin, closing a life given up to studies in genealogy. He edited Burke's Peerage till his death, besides producing The Roll of Battle Abbey, The Romance of the Aristocracy, Vicissitudes of Families.

Burke, Robert O'Hara (1820-61), Australian explorer. A native of Ireland, he was educated in Belgium,

which ended tragically. Dissensions caused fatal delays to an expected relief party, and B. with Wills and Gray, his two companions, perished miserably.

Burke, Thomas Henry (1829-82),

gov. official, after acting as private secretary to Sir Robert Peel and other chief secretaries for Ireland, became, in 1869, himself Under-Secretary for Ireland, a post which he held till he was assassinated together with Lord Frederick Cavendish, the new Chief Secretary, in Phænix Park, Dublin, by a member of a secret society called

the Invincibles.

Burke, William (d. 1798), kinsman of Edmund Burke, and reputed author of Junius' Letters, travelled with his famous kinsman in 1752, and assisted him in the Account of the European Settlements in America, 1757. From 1755 to 1758 he was Under-Secretary of State, and from 1766 to 1774 was M.P. for Great Bedwin. In parliament he showed, according to Horace Walpole, 'his cousin's presumption,' with ' neither manner nor talents.' In 1769 he was bankrupt as the result of unfortunate speculations. From 1777 to 1792 he spent most of his time in India, having been appointed, in 1782, commissary-general of the forces in the E. Indics. He had already lived with Edmund B. at Queen Anne Street, and at Gregories, and, on his return home in 1793, gladly availed himself of the offer to nurse his broken health

United Kingdom, the first work of its kind to have an alphabetical arrange-criminal. Failure in a veriety of ment. He is also the author of an trades led to his adoption of body-

fellow-loafer to Dr. Robert Knox of Edinburgh for £7 10s. This was his first attempt. Later the two men perpetrated a series of murders by means of suffocation, afterwards dis-posing of the bodies to anatomists, chief among them being Dr. Knox. By the time the fifteenth murder had been committed suspicion culminated in their arrest, and on queen's evidence from Hare, B. was hanged in 1829. The slang term 'to burke' signifies the process of suffocation skilfully arranged to leave no signs of violence.

Burkhan-Budha Mountains are a range of the Kuen-lun system, Tibet, and became at the age of twenty a range of the Kuen-lun system, Tibet, captain in the Austrian army. He which is largely composed of schists joined the Royal Irish Constabulary and archean crystalline rocks, with in 1848, and in 1853 he sailed to Melbourne, wherehe became amember of the police. He led an expedition between 96° and 98° E. The average

1691: preached against Baptists. helped Fr. Protestant exiles, 1687-92, and showed great zeal for foreign missions. Among his works are: Argumentative and Practical Dis-1722); Poor Man's Help and Young Guide to Christian Families, 1764); Explanatory Notes on the four reprinted and abridged. See Parkhurst's Life, 1704; Calamy's Account, 1713; Palmer's Nonconformist Memorial, 1803.

During the American War, in which and throughout his parl career earned he fought, he was twice sentenced to death. Throughout the Egyptian He was made a peer in 1571. He following year. B.'s domestic life was particularly free from the licence that panying the desert column from two particularly free from the licence that was a feature of the time. Bibliomore, and throughout his parl career earned are purpose. He was made a peer in 1571. He following year. B.'s domestic life was particularly free from the licence that was a feature of the time. Bibliomore, and throughout his parl career earned are purpose.

Gk. language. At the age of twenty- and common men like gods.' Thus all

elevation is over 16,000 ft., whilst one hemarried Cheke ssister, by whom Pryhevalski has an altitude of the had Thomas, an only child, and the destined Earl of Exeter. In 1543 Burkitt, William (1650-1703), di-Mary Cheke died, and he re-married, Burkitt, William (1650-1703), di-Mary Cheke died, and he re-married, vine and commentator, b. in Suffolk; three years later, a daughter of Sir educated at Stowmarket and Cam-Anthony Cooke. It is reported that Roger Ascham placed her with Lady Jane Grey as the two most crudite women in the country. In 1543 he sat in parliament, and four years later accompanied the Protector Somerset on his Pinkie expedition. About 1548 he became private secretary to Somerset, and shared to a certain extent the anxiety felt by the protector during his fall. He was course on Infant Baptism (reprinted sent to the Tower in 1549 by order of Somerset's opponents, but in Jan. of Man's Guide (32nd ed. Help and the following year was released upon oath. He successfully won Warwick's good graces and presently became Explanatory Notes on the John South States and Property of the Was Testament. His works were frequently knighted. During the changes brought about by the accession of Mary he adopted an accommodating attitude, and by a series of clever dissimulations retained royal favour, though in

morial, 1803.

Burlamaqui, Jacques Jean (16941748), Swiss writer on natural law,
1804.

1805.

Burlamaqui, Jacques Jean (16941807.

Mary's parliament he had no seat. Beforc Mary's death B. had established
with Elizahimself so
him with
no little trust or confidence. On her
of the council of state at
Geneva. His belief in a rational
utilitarianism is expressed in the
stamp, and his experiences had left
Principes du Droit Naturel, 1747, and
him with
no little trust or confidence. On her
accession, the many pitfalls about her
stamp, and his experiences had left
Principes du Droit Naturel, 1747, and
him a master in the art of avoiding,
his Principes du Droit Politique, 1751.

Burleigh, Bennet, English war
correspondent, has been on the staff
of the Daily Telegraph since 1882.
During the American War, in which
he fought, he was twice sentenced to
a reputation for chastity of purpose.

Russio-Japanese, and Balkan wars, applied to writing, acting, speaking, Thus in his various publications he and to drawing, where it is more often was able to draw on a wide experience. called 'caricature.' It consists in diswas able to draw on a wide experience. called 'caricature.' It consists in dis-Burleigh (or Burghley), William torting or exaggerating a work of art, Cecil, Lord (1521-95), was born on the object being to excite ridicule. Sept. 13, at Bourne in Lincolnshire. Thus it throws into strong relief His descent was traced to an Owen of peculiarities and affectations and lays the time of King Harold, and a Sit-stress on all incongruities and oddities, syllts of the reign of Rufus, but the authenticity of this connection is often is, it is used to expose bombast doubted. William was the eldest son and insincere rhetoric, sham virtues, of Richard a regumn of the wardrobe. doubted. Whilam was the endest son and insincere rhectoric, snam virtues, of Richard, a yeoman of the wardrobe, and all hypocrisies, rather than to and Jane Heckington. At the age of display true nobility and genuine fourteen he entered St. John's College, sentiment in a ludicrous light. Above Cambridge, where he met Roger all, it loves to rouse laughter by disable and style, to the college of obtained an unusual mastery of the make gods speak like common men

dowed with the sense—and folly—of as a summer resort. Its manufs. in-human beings, are also Bs. What clude sashes, doors, blinds, boxes, human beings, are also Bs. What clude sashes, doors, blinds, boxes, may be styled 'animal' Bs. have been furniture, woollens, refrigerators. popular from the time of Chaucer; paper, and machinery 3. A city of indeed his Nun's Priest's Tale, where Iowa, U.S.A., is situated on the Chaunticleer, the cock, and Pertelote, Mississippi. Its pop. of 25,318 comhis wife, discuss the value of ominous prises 4492 foreign born. Good limedreams after the manner of Gk. sages, stone is quarried here, while its manu-has never been surpassed. Most factures are lumber, furniture, has never been surpassed. Most factures are lumber, furniture, people would agree in giving to baskets, pearl-buttons, cars, carriages, Aristophanes the highest place among flour, and pickles.

B. writers. Even to-day the splendid Burlington, in Young his representations of Socrates LINGTON. up in a balloon studying the heavens, or of the demagogue Cleon as a sausage-seller can be appreciated by every classical student, and how much more monstrous must the B. have appeared to the actual con-temporaries of Socrates and Cleon, who could enjoy at once the piquancy of many an allusion lost to-day. The Hoyal Academy acquired a leasehold Italian word originates in the Opere Burlesche of Berni, 1497-1535. In France Scarron made a clever mock in his Virgile Travesti, imitation 1648-53, and throughout Louis XIV.'s reign travesties of the Iliads of antiquity were fashionable. In Don Quixole the ideals of chivalry are ludicrously misrepresented through the adventures, both of Don Quixote, the enthusiast, and Sancho Panza, the apostle of common sense, whilst Chaucer in his Rime of Sir Thopas, gently scoffs at the interminable and tiresome romances of his day. Buckingham's Rehearsal and Gay's Beggar's Opera may also be quoted as apt illustrations of burlesque.

Burlingame, Anson (1820-70), an American diplomat. He was a native of New Berlin, New York. He graduated at the Harvard Law School in 1846, and subsequently practised successfully at Boston. His speeches in defence of free soil in 1848 aroused considerable attention. In 1853 he renentered ti tion. His · in-

dependenc atificate to his appointment as minister at Vienna. He was sent to China by Lincoln, as a result. His activities produced the 'B.' treaty, in which China's right of dominion over all her territory was acknowledged. He died at St. Petersburg.

Burlington: 1. A city of New Jersey, U.S.A. It is situated on the Delaware R., 18 m. N.E. of Philadelphia. Its pop. is 8038, of whom some Chittagong. 600 were of negro descent. The B. 1200 m., and

mock-heroic poetry, such as Butler's 2. A city of Chittenden, co. Vermont, inimitable Hudibras, Pope's Rape of U.S.A. It is placed on the E. coast of the Lock, and many of the smaller Lake Champlain, and is the largest poems of Gray and Cowper, where town in the state. Its pop. is 21,070.

Burlington, in Yorkshire, see BRID-Burlington, Earls of, see BOYLE, RICHARD (1612-97), and BOYLE,

RICHARD (1695-1753).

Burlington House was built on the N. side of Piccadilly in about 1665. In 1854 the gov. paid £140,000 for the old house, which Richard Boyle. Earl of Burlington, had built. of it and of a garden behind in 1867, and two years later opened exhibition galleries and schools over the garden The new building in the Italian Renaissance style, creeted 1869-72, now provides accommodation for an

Linnean, Geological, and Chemical. The Gibson statuary and diploma works are stored in the upper story, whilst the Royal Academy holds its annual exhibition and banquet here in premises consisting of thirteen

m. long, in the N. of the delta of the Nile, Egypt, with which it is connected by canals. One channel also connects it with the Mediterranean.

Burma, a prov. of British India. Burma, a prov. of British India. It comprises the previously independent kingdom of B., and British B. secured by the wars of 1826 and 1852. The province is divided into Upper and Lower B. It is situated on the E. of the Bay of Bengal, and lies approximately between the parallels 27 and 28 N. lat. Its length from N. to S. is 1200 m., and its breadth 575 m. Its boundaries are, on the N., Manipur, the Mishmi Illils, and parts of China; on the E., Chinese and parts of China; on the E., Chinese Shan States, parts of Yun Nan, Indo-China (Fr.), and Siamese Shan; S., Siamese Malay States and Bay of Bengal; W., by Bay of Bengal and Chittager Its coast-line is about 1200 m., and the area 238,738 sq. m. Society Library is one of the oldest The country comprises chiefly the in America, and the town ower its basin of the Irawadi, the area drained settlement to Eng. Quakers, in 1677. by the Salween and Sittang rivs., and

the provs. of Arakan and Tenasserim. the Salween, and the Sittang, the country is hilly and disturbed. Extensive dists. attain a height of 2000 to 4000 ft. The chief mts. are the Patkoi in the N., 12,000 ft.; the China Hills, 15,000 ft., which are snowcapped; the Arakan Yoma Mts.: the Pegu Yoma; the Tenasserim, and the entire ter. of the Shan States. chief riv. is the great Irawadi, whose source is at present undiscovered, but whose known length is 1100 m. Ιt flows from Tibet to the Bay of Bengal. It is navigable for the whole year as far as Bhamo. 700 m. from its delta. The only navigable affluents for large vessels are the Chindwin, the Shweli, and the Myit-nge. The Salween, rising in the snows of Tibet, is navigable for 300 m. during the rainy season and for half that distance in the dry part of the year. The Sittang rises in the hills of Mandalay. Innumerable native craft ply on these rivers and their tribs. during the rainy season, but save for the largest streams, they are useless for navigation in the dry season. At floods, which are frequent in the wet season, the great rivers spread their waters over a space of 10 to 15 m. from each bank, and only the precaution of building the native huts on piles, and the fortunate cir-cumstance of the slowness of motion. saves the Burmese householders from destruction. Two hundred miles from : the sea the Irawadi is one mile wide. The climate and rainfall vary considerably in the different parts of the prov. The mean rainfall on the coast is 100 in., while near the Irawadi it falls rapidly. At Prome it is only 42 in., and at Thayet-myo scarcely 37 in. The rainfall is particularly heavy on the Upper Chindwin, on the Ruby Mines plateau, and on the Shan Hills. The duration of the wet season at the . delta extends sometimes over a period of five to seven months, and though the atmosphere is excessively moist. the temperature is excessively moist.

Indeed from Nov. to Jan. the temperature sometimes reaches 60° F., Aryan type.

But from Feb. to April the delta practicality in atmosphere is hot and dry. and the of method, the

ducts being teak. These trees are seen which are both maritime. With the here sometimes with a girth of 25 ft., exception of the deltas of the Irawadi, and a height of 120 ft. from the ground to the lowest branch. The bamboo grows in profusion, and is used in many ways. The different forest products include wood, oil, varnish, tannin. gums, and rubber. The wild animals of B. include the elebuffalo. phant, rhinoceros, tapir. bison, deer, hog, cattle, tiger, leopard and bear. There are no horses, and sheep and goats are rarely met. Pythons and cobras are found in great numbers, while that deadliest of eastern reptiles, the hamadryad, is occasionally encountered. An extraordinary profusion of beautiful and varied birds form a striking feature of the country, and an equal richness marks the fish supply. From the shark to the shrimp, all piscatorial specimens are food for the Burmese. In the caves of the Mergui Architecture and the shring the state of the Mergui Architecture are reserved the shiple of the shring the state of the Mergui Architecture are reserved the shiple of the pelago are procured the edible birds' nests which form one of the delicacies of Burmese diet, while turtle eggs are also held in high esteem. The gathering of these eggs is controlled by the state. The mineral deposits of B. comprise gold in river sand in small quantities; silver in the Shan States; iron, copper, and lead in large but unworkable quantities; tin in the Mergui dist.; petroleum by the Ira-wadi; and Arakan oil: this is an oil which may be used immediately it is obtained from the well; jade and amber are worked, though the former is the more successful; good white marble is quarried at Mandalay, where it is used in the ornaments of Buddhist temples; coal is mined at Buddhst temples; con is mind as many places in Upper B., especially at Kale on the R. Chindwin, and at Thingadaw on the Iarwadi; limestone is procurable, and is burned in large quantities. In Mandalay the finest the result of the found. The rubies in the world are found. The total pop. in 1901 was 10,490,624, which is composed chiefly of Burmese, Arakanse, Karens, Shans, Chins, Kachins, and Talaings. The Burmese people are short and thick-set, and approach the Chinese rather than the perature sometimes reaches 60° F., Aryan type. Despite a want of but from Feb. to April the delta practicality in their nature, and a lack atmosphere is hot and dry. and the of method, there are very few poor, thermometer records frequently 100° and no begrars to be met at all. Their in the shade. Unlike India, there is staple food is rice. Buddhism is their not the blast of the hot wind, and the religion, and it is of the purrest form. In the fact the Ruby Mines plateau, no higher temperature is registered than 160°, has induced the authorities to be recet a military sanatorium there. On masonry. The floods cause the houses of easy to endure than those of the plains of India. There is an abundance less easy to endure than those of the plains of India. There is an abundance in umber of monasteries throughout forests of B., chief of these wood pro-Despite a want of

to be a safeguard upon happiness (1699), Justin (1722), Ovid (1727), after death. Mandalay is particularly Suctonius (1736), and Lucan (1740), rich in this respect. The teak of the These are but a very few of his works, forests is controlled by the state, his publications altogether filling which pays much attention to the many pages of a catalogue. Scientific nourishment and culture of this valuable tree. The gov. of B. is of the above, born at Amster invested in a chief-commissioner who acts for the viceroy of India. headquarters are mainly at Rangoon. Over each prov., of which there are eight, is a commissioner whose administrative area is divided into smaller dists., each supervised by an assistant-commissioner. The earliest monarchs in B. were Buddhists from India, and the Burmans first occupied the Irawadi valley about 2000 years ago, migrating from Central Asia. The Shans wrested the country from its original inhab., and later it was peopled by the Talaings. Settlements by the Fr. and Eng. were made in the 17th century, though the Portuguese had occupied parts of the Irawadi delta in the 15th century. In the 18th century Chinese armies invaded the ter. from the N. During the beginning of the last century the Burmese conquered Assam, and in 1820 they met the Eng. Burmese depredations led to a war in 1824, at the conclusion of which the Burmese consented to observe a treaty. But hostilities were renewed in 1830, and Pegu was taken by the British. An interval of peace succeeded till 1885, when further violence and insult made a fresh ex-pedition necessary. Resistance against the British was half-hearted, and

The Soul of a People.
Burmann, Pieter (1668-1741), famous Dutch classical scholar, usually known as the Elder to distinguish him from his equally famous nephew. He was born at Utrecht, and commenced his studies at the university there. He studied closely the in all parts of the country. classics and became very proficient in Latin. He was intended for the legal profession, and after studying at Leyden and travelling through Switzerland and Germany, he settled down to his profession. He later be-came the professor of history and eloquence at the university of Utrecht. Next he became professor of Greek language and eloquence at Leyden, and finally professor of history for the United Provinces and chief librarian. He was famous throughout Europe for his comthroughout Europe for his compensation ascents, in one of which mentaries and editions of the classics, and he took part in a number of the disputes which waged between the He died fighting at Abu Klea in Feb. Burnand, Sir F. C. (b. 1836). Eng. his more important publications may humourist. He was born in London

erection of one of these hostels is felt | bementioned: Phædrus (1698), Horace

Burnand

(1746), Clar

Burmann, Pieter (1714-78), nephew of the above, born at Amsterdam. He studied under his uncle at Leyden, and made a special study of law and philology. He became in 1735 pro-fessor of history and eloquence at Francker, and later professor of his-tory and philology at the university of Amsterdam. He afterwards became general librarian and inspector of the gymnasium. He was extremely learned, and published many editions of classics, together with an Anthology of the 1759-73. H

(1780), and Burmanniaceæ is a small order of monocotyledonous plants found in tropical forests. The flowers are bright blue, and the plant is a saprophyte. The chief genus is Burmannia, of which there are some thirty species.

Burn. Richard (1709-85), born in Westmoreland and educated at Queen's College, Oxford; he became one of the greatest authorities on law. He took holy orders and became vicar of Orton. But he devoted his life to a study of law, and was made chan-cellor of the diocese of Carlisle. His two most famous works were Justice of the Peace and Parish Officer and his Ecclesiastical Law, which was regarded as the standard authority on that subject for a great many years. Both these books were the outcome of much research and carried authoritative weight.

Burn, William (1789-1870), a Scottish architect, native of Edinburgh. He was educated for his profession under Smirke. He was successful in Edinburgh and London, where he settled in 1844. He has left his work

Burnaby, Frederich Gustavus (1842-85), Eng. traveller and soldier. The son of a clergyman, he was educated at Harrow, and entered the Royal Horse ed Guards in 1859. He acted as Carlist be-correspondent of the Times in 1874, and and later went to Khartoum to in-of vestigate and report upon Gordon's expedition. Heachieved famethrough the travelling feat of crossing Russian Asia on horseback, which is described in his A Ride to Khiva. His love of excitement found vent in a series of balloon ascents, in one of which he

His mother, on Nov. 9. Cowley, was descended from the author, Hannah Cowley. He received his education at Eton, afterwards

Club and at Cambridge. made dramatic writing his work. Black-Eyed Susan, a burlesque, made a great hit, and he followed with a large number of farces and comedies. He succeeded Mark Lemon as editor of Punch, in 1880, and was knighted in 1892. Four years later he retired from his editorial chair. He pub. Happy Thoughts, a well-known book. Burne, Sir Owen Tudor (1837-1909),

major-general, was drafted in 1856 to India with his regiment, the Lancashire Fusiliers, the Mutiny having broken out. Owing to his knowledge of Hindustani, he was soon appointed brigade-major. At the assault of Kaisar Bagh he led the attacking column. His gallant services secured his captaincy in 1864. Sir Hugh Rose, impressed with his work as adjutant, appointed him private secretary in 1862, and he held a similar position under Lord Mayo in 1868, and under the viceroy, Lord Lytton, 1876-78. B. was with the former when he was murdered in the Andaman Islands. As an authority on Eastern questions, he contributed regularly to the Times, and was for many years connected with the India Office as adviser and

head of the secret department,
Burne-Jones, Sir Edward Burne,
Bart. (1833-98), English painter, born at Birmingham on August 28. He was an only son, and of Welsh extraction, to which strain his high ideals have been attributed. He was educated at King Edward's School. Birmingham, and studied for the During his educational Church. period he awoke to an adoration of the mythology of the classics. In Jan. 1853, he entered Exeter College, Ox-ford. Here he met William Morris, who had joined the house on the identical day, and the couple became fast friends. They found in each other the necessary stimulus for their After a close and individual aims. absorbing study of the It. pictures in the university, he came across two paintings by Rossetti, which immedipantings by Nossecti, which immediately set light to a great admiration. The two friends had by this time discovered their true bent, and relinquishing the Church, they devoted themselves to art. B. took Rossetti for his master, though he had not yet met the artist, but in 1856 his dream was realised, and his acquaintance with Rossetti began. He left college,

Emmaland settled in London, and commenced his studies under the instruc-tion of Rossetti. Morris soon joined him here. So apt a pupil did B. become, that, by the end of the same year, Rossetti was compelled to admit, though without any acrimony, that he was no longer able to teach the young artist more. Many branches of the work were undertaken by the young man, among them being pen and ink work on vellum, oils, and cartoons for stained glass. In 1858 his deep admiration for Chaucer led him to execute a cabinet decorated with The Prioress's Tale. His first journey to Italy was made in the following year, and in 1860 he executed two water-colours which show most strongly Rossetti's influence, and which rival in a greater degree yet reached, that master's work. These works were 'Sidonia von Bork,' and 'Clara von Bork.' He married Miss Georgina Macdonald in the same year, and in 1862 the couple accompanied Ruskin on his tour to Milan and Venice. In 1864 he was elected an associate of the Society of Painters in Water-Colours. He became A.R.A. in 1886, and in 1894 he was made a baronet. An attack of influenza resulted in his death on June 17, 1898. Among his masterpieces are: 'King Cophetua and the Beggar Maid,' 'The Golden Stairs,' 'Pan and Psyche.' 'Chant d'Amour,' and the 'Annunciation.' Besides his colour-work, B. exercised a great influence upon designs in stained glass, and specimens of his work are to be found all over the country. See Memorials, by Lady Burne-Jones. 1904: Lires by M. Bell. Water-Colours. He became A.R.A. in Burne-Jones, 1904; *Lives* by M. Bell, 1898, and Mrs. Ady. 1894.

Burnell, Acton, Statute of, secACTON BURNELL, STATUTE OF. Arthur Coke (1840-82). Burnell, Sanskrit scholar, went out to Madras in 1860. All his free time was devoted to Sanskrit, and in 1870 he generously gave his collection of 350 MSS, to the gave his collection of any mind.

India library. Of his Handbook of

Palacography, 1874, Professor Max Müller remarks, 'It opens an avenue of the thickest and darkest jungles of Indian archæology. But his chief work was his Classified Index to the Sanskrit MSS. in the Palace at Tanjore, 1880. It is a compendium of the Sanskrit literature of Southern India. Over-work and the hardships of the Madras climate were responsible for his early death. had an intimate knowledge of the

Southern vernaculars, and had also studied Tibetan, Arabic, Coptic, etc. Burnes, Sir Alexander (1805-41), soldier, traveller, and explorer.

which he learned the native language, he received rapid promotion, and was employed on several special missions. He proposed the exploration of the North-Western Provinces, which at that time were practically unknown, and in 1831 went to Lahore on a special mission. In the following year he started on the tour which took him across the Hindu Koosh, to Bokhara and Persia. The book which he published on his return to England roused great interest, and obtained for him the recognition of the British and French Geographical Societies. On his return to India he went on a special mission to Kabul, and was later special envoy there. He was assassinated by the Afghan mob in 1841, meeting his death bravely. His publications were: Travels into Bokhara, 1834, and Cabul, 1842.

Burnet is the name given to various

species of Poterium, a genus of Rosaceæ found in northern climates. P. Sanguisorba, the salad B., is a unisexual plant with an indefinite number of long stamens; the flowers, situated at the top of the spike, are female, those below are hermaphrodite. Proficinale, the great B., has four firm and reddish-coloured stamens facing the sepals, the corolla is absent, but there is a nectary round the style.

Burnet, Frances Hodgson (b. 1849), English parallet She was born at and settled in

clusion of the American Civil War. In 1873 she married Dr. B. and toured Europe. Her first successful production was That Lass o' Lowrie's, which appeared first in Scribner's Magazine. Haucorth's, her next novel, was pub. in 1877. Her chief works following these two were: A Fair Barbarian, 1882; Through one Administration, 1883; and her most popular novel, Little Lord Fauntleroy. 1886, and a host of short stories. Her work has been compared with that of Mrs. Gaskell.

Burnet, Gilbert (1643-1715), English historian and divine, was born at Edinburgh, of one of the ancient and distinguished houses of Scotland. He was educated at Marischal College, Aberdeen, and after studying law for about a year gave that up in preference for divinity. In 1661 he accepted orders in the Episcopal Church which had just been restored in Scotland on the Restoration. In 1662 he visited London, Oxford, and Cambridge, and in the next year made an extensive tour through France and Holland. A short time after his return he was offered the parish of Saltoun in Haddingtonshire, which he accepted, and which he retained for the next four years. In

1669 he was appointed professor of divinity in the university of Glasgow. During the whole of this period he was attempting to bring about a good understanding between the Episcopalians and the Presbyterians. In 1673 he published his Vindication of Authority, and in the following year the Lives of two Dukes of Hamilton, an account of the civil wars in Scotland. In 1674 B., not being able to accept Lauderdale's solution of the Church question, came to London, where he was, on the whole, favourably received and given the chaplaincy of the Rolls Chapel, and later he became lecturer of St. Clements. Between the years 1676-79 appeared his History of the Reformation, for the first two vols. of which he received the thanks of parliament. He showed himself independent of court influence, and offended Charles II. by the attitude which he adopted in the execution of Russell. On the accession of James II. he left the country and travelled in Europe, but finally settled in Holland, and had considerable influence over William. He returned to England with him, and was appointed Bishop of Salisbury. His pastoral letter claiming England for William III. by right of conquest, gave grave offence, and was publicly burnt by the hangman. His work in his diocese was vigorous, and he gave great attention to his pastoral duties. He suggested the scheme which was afterwards adopted in the provision known as Queen Anne's Bounty. 1699 he was appointed tutor to the Duke of Gloucester. His Exposition of the Thirty-nine Articles was pub. 1699, an exposition which met with much condemnatory criticism at the hands of the clergy. His influence declined with the death of Queen Mary. He died in March 1715 and was buried at St. James, Clerkenwell. His great work, the History of his own Times, was directed to be pub. six years after his death. It was actually published between the years 1724-34. This work was also bitterly attacked, its most important parts are naturally the history of the Church in Scotland, the Catholic question in England, and the negotiations previous to the Protestant revolution in 1688, all of which he was able to write on from his own See Clarke and actual experience. Foxcroft, Life, 1907. Burnet, John (1784-1868), painter

and Cambridge, and in the next and author, born at Fisherrow, year made an extensive tour through France and Holland. A short time gravings of the works of Wilkie after his return he was offered the first brought him renown. The parish of Saltoun in Haddington-shire, which he accepted, and which he frequency for the next tour years. In and most popular of his own works, retained for the next tour years. In and was painted in 1837. He also

authority upon art. wrote with important most being A Practical Treatise upon Painting, and Rembrandt and His Works. He also wrote a Life of Turner in co-operation with Cunning-

ham. He died at Stoke Newington. Burnet, Thomas (1635-1715), English divine, was born in Yorkshire, and educated at Clare, Cambridge. He became a fellow of Christ's, and later senior proctor of the university. Later he became master of Charterhouse, and in this position he did his best to prevent the Catholic appointments of James II. He became clerk of the closet to William III., in succession to Tillotson, but by reason of the outery raised by the publication of his Archaologiae Philosophicae, was forced to retire. He retired to Charterhouse, where he died. His two most famous publications were: Telluris Theoria Sacra, a work in which he put forward a fanciful idea of the structure of the earth, and which was afterwards translated under the title the book already referred to, Archaologia Philosophica, which he afterwards rendered into English. In his latter work he treated the Mosaic account of the creation as an allegory, with the result above mentioned.

Burnett, George (1822-90), Scottish writer on heraldry, was called to the Bar in 1845. He early interested himself in Scottish genealogy, and wrote the most part of an excellent Treatise on Heraldry. His most valuable work is his Exchequer Rolls, 1264-1507, which he worked at from 1881 to 1890. Its twelve vols, contain much that is indispensable to the true appreciation of his country's history. In 1866 he held the office of Lyon King of

Arms. Burnett, Gilbert Thomas (1800-35). botanist, early devoted himself to the study of medical botany. Though he began practice as a surgeon, he was known to his contemporaries chiefly as a popular lecturer. On the opening of King's College, London, 1831, he was appointed first professor of botany, but he also lectured frequently at the Royal Institution, St. George's Hospital, and later before the Apothecaries' Society. Lack of precision in style detracts from his Outlines of Botany, 1835.

Burnett, James, see Monboddo. Burnett Prizes, two premiums founded by John Burnett (1729-84), a merchant of Aberdeen. John Burpremiums nett directed that a part of his fortune was to be allowed to accumulate during periods of forty years in order to create a prize-fund to be awarded to the authors of the two best treaties. B., the celebrated authority on the on 'The evidence that there is a history of music. He was born at Lynn

Being all-powerful, wise, and good by productions whom everything exists; and particularly to obviate difficulties regarding the wisdom and goodness of the Deity; and this independent written revelation and of the revelation of the Lord Jesus; and from the whole to point out the inferences most necessary and useful to man-kind.' The first competition toolmost necessary and useful to han-kind.' The first competition took place in 1815, the first prize, £1200, being won by Dr. W. L. Brown, prin-cipal of Aberdeen University; the second, £400, by the Rev. J. B. Sunner, afterwards Archbishop of Canterbury. In 1885 the first prize-was awarded to the Rev. R. A. Thompson, and the second to Dr. Thompson, and the second to Dr. Tulloch. Since then the fund has been used to found a lectureship; the first lectures were delivered on the subject, 'On the Nature of Light,' by Prof. Stokes of Cambridge, in 1883.

Burnett's Fluid, a deodorant intro-duced by Sir W. Burnett (1779-1861). It consists of a solution of zine chloride, which decomposes the stronglyof the Sacred Theory of the Earth; and smelling ammonium sulphide, forming zinc sulphide and ammonium chloride, both of which substances are practically without odour. To burnettise wood or fabrics means to saturate the material with zinc chloride solution; this process prevents

decay.

Burney, Charles (1726-1814), doctor of music and writer, was for three years a pupil of the famous Dr. Arne in London. From 1745-50 he composed the music for three operas, Alfred, Robin Hood, and Queen Mab, which were produced at Drury Lane, but being threatened with tuberculosis, he gladly accepted the posi-tion of organist at Lynn, Norfolk, in 1751. It was during his nine years' residence here that he conceived the general plan of his History of Music. which did not, however, begin to appear until 1776. Although his account of primitive Gk. music in the first vol. excited much hostile criticism, and his appreciations of Handel and Bach were recognised as inadequate, yet his work has formed the basis of all similar histories of later time, and secured the author a well-deserved popularity. The musical deserved popularity. The musical material he collected during his tours abroad, 1770 and 1772, was pub. in two essays. Dr. Johnson was among his many admirers, whilst he owed to Edmund Burke his position as organist at Chelsea Hospital, 1783-1814. His Life, written by his more famous daughter. Madame d'Arblay, appeared in 1832.

becoming later chaplain to the king. fiction. See Austin Dobson, Fanny His sister was Madame D'Arblay. Burney (English Men of Letters He died at Deptford. His works series), 1903. include Tentamen de Metris Eschyli, Burnham, Frederick Russel (b.

practice of scribbing unladylike. Her time he destroyed the failroad befirst and best novel, Erelina, was tween Pretoria and Johannesburg,
actually published in 1778, but the
story had been planned whilst Fanny
struction of the line E. of Pretoria, his
was still in her teens. It was brought
object being to prevent the British
out in utmost secrecy, but the father
prisoners from being taken away.

Burnham Beeches, a wooded region
was admitted into the fellowship of in Buckinghamshire. It is the rethe most distinguished literary people
mains of an anct. forest, and consiste
of the day, Johnson, who was her
of a number of beaches of the preparative. of the day. Johnson, who was her of a number of beeches of tremendous friend and admirer until death, decigirth. Gray first caused attention clared that some passages in Evelina to be directed towards them, with would do honour to Richardson. She attendant appreciation. In 1879 the received £20 in all for this novel, yet City of London Corporation acquired Burke, so the story goes, eat up all them for public use. Burnham itself night to read it, and Reynolds would is a township of 3245 inhabitants. not touch his food until he had reached the end. For five years, 1786-1791, Miss B. earned £200 a year for attending to the wardrobe of Queen Charlotte, but she was glad to accept a pension of £100 a year instead. She married a French officer, M. D'Arblay in 1793, and lived with him in France from 1802 to 1812. Their son was born pension of £100 a year instead. She Bischof. Pop. 1500.

married a French officer, M. D'Arblay in 1793, and lived with him in France from 1802 to 1812. Their son was born in 1794. Her other stories were decilia, 1782, and Camilla, 1795. Her stories were diarry, which extended over seventy-two years, appeared posthunder the title of Journal and Letters. In their dispersal. Burning Glasses and Mirrors. Under the title of Journal and Letters. A lens may be used to bring the It was always her ambition to write, leat-rays of the sun to a focus in as Sheridan suggested. for the stage.

in Norfolk, and was educated at ing any attempt. Indeed she was by Charterhouse and Caius College, nature somewhat prudish and self-Cambridge. He received at different effacing, quite unlike the bas bleus times the honorary degrees of M.A. of the day, yet authorities agree that times the honorary degrees of M.A. of the day, yet authorities agree that (Cambridge), and D.D. by the Archbishop of Canterbury. He opened a charm of her autobiography. During school at Hammersmith in 1786 by her lifetime she was over-estimated, which he became wealthy. He took but her work is still regarded as an orders in the latter part of his life, invaluable link in the early history of heroming later charles to the light flow.

1809; Remarks on the Greek: Verses 1861), American scout, born in the of Millon, 1790. His valuable library wilds of Minnesota. He took part in was acquired by parliament and det the cattle wars of the American S.W., posited in the British Museum as and in 1893 first visited S. Africa. At the Burney library.' once he entered the service of the Burney, Frances (1752-1840), a British S. African Company, which novelist, was the daughter of Charles was at war with the Matabele. With B., D.Mus. In 1761, a year after the Major Wilson in command, he joined B., D.Mus. In 1761. a year after the Major Wilson in command, he joined family's removal to London, Mrs. B. a small party which set out to capdied. Fanny was never 'placed in ture the Matabele king. However, he any seminary,' nevertheless, at the was sent back to the main body to age of ten, she had already taught ask for reinforcements, which were, herself to read and write, and at once in the second rebellion of the arts into constant practice. Her same tribe, he gained distinction by precocity as an authoress was probably due to the fact that, at her father's house, she was continually in 1899 Lord Roberts sent for him being introduced to the leading men from the Klondyke gold fields to of the day both in music and litera-serve in the Boer War. In 1900 he ture. Still, at the age of fifteen, she was captured at Sanna's Post, where was induced to burn her manuscripts, Broadwood's convoy was surrounded, as her stepmother considered the as her stepmother considered the but made good his escape. At one practice of scribbling unladylike. Her time he destroyed the railroad be-

Burnie, a post tn. and port of entry and clearance of Wellington co., Tasmania. on Emn Bay. It is 67 m. W.N.W. of Launceston, and the terminus of the railway to Mount Bischof. Pop. 1500.

as Sheridan successed, for the stage, the same manner, though not quite but perhaps herdread of being thought at the same point, as the rays of unfeminine prevented her from mak-light are focussed. The heat thus

brought to bear on a small area is which the tissues are affected. Dupuysometimes used for fusing metals, tren suggested the following classes: etc. The effect may be produced by 1. Where the skin is reddened. A reflection through the use of mirrors or a concave system

mirrors. In the 'solar engi heat reflected from several thousand plane mirrors arranged on a huge concave frame is focussed upon a small boiler and utilised in driving an engine for pumping operations, etc. Special machinery is provided to keep the apparatus facing the sun. Archimedes issaid to have burnt the Roman fleet of Marcellus before Syracuse by concentrating the heat reflected

Burnley, market tn., municipal co., and parl. bor. of Lancashire. It is a co. bor. and stands at the confluence of the Brun and the Calder. Charles marbles and bronzes reposes in the British Museum, was born here. Its chief industries are cotton weaving, worsted manufacturing, coal-mining, quarrying, and brick-burning.

97,043. Burnouf, Emile Louis (b. 1821), an orientalist, was a nephew of Jean Louis B., and was born at Valognes. He lectured on ancient literature at Nancy and became afterwards director 1 of the French School at Athens. Among his works are: Méthode pour Etudier la Langue Sanscr Essai sur la Véda, Histoire de la Littérature Grecque, and La Mythologie des

Janonais.

Burnouf, Eugène (1801-52), son of Jean Louis B., famous Fr. orientalist, was born in Paris on April 8. He collaborated with Christian Lassen in producing Essai sur le Puli in 1826. He undertook the great task of deciphering the Zend manuscripts, and through his instrumentality a knowledge of this tongue was first brought within the scientific world of Europe. He died on May 28, 1852, having been a member of the Académie des In-scriptions and professor of Sanskrit for twenty years. His other works include a Commentaire sur le Façna, l'un des l'arces, and the didad from Sadé, one the Zend.

Burnouf, Jean Louis (1775-1844). a wide reputation by his scholarship, and is remembered, among his many works, as the author of a scholarly

translation of Tacitus pub. in 1827-33.

Burns and Scalds, destruction of tissue by dry heat in the former case, by moist heat in the general symptoms and :

the same in both cases.

Local treatment classified according to the depth to of B. aims at preventing infection,

ilants.

The con-

s from thirty-six

ing is apparent which ppears quickly; there is pain at first, but the condition is rapidly cured. 2. Where the outer skin is destroyed, more or less extensive blisters containing serum raising it from the true skin. A fair amount of pain is felt; the outer skin is cast off after the blister has been pierced, and a new skin forms without any scar remaining. 3. Where the true skin is partly destroyed. is considerable, black or brownish from several large burning mirrors sloughs occur, and there is danger of upon it. See Lens, Reflection. septic poisoning. When the wound has healed, a slight scar or puckering of the skin is observable. 4. Where the true skin is wholly destroyed. The condition is serious, but is not accom-Townley, whose collection of antique panied by much pain, as the nerveendings have been destroyed. After healing, a deep scar can be noticed. 5. Where the soft parts, muscles, etc., have been destroyed. 6. Where the bones have been charred, a very serious condition, which can usually only be met by amputation. The dangers from B. include shock, septic poisoning, inflammation of internal organs, and general exhaustion. danger from shock depends upon the extent of the burnt area; it is estimated that cases in which over onethird of the total body-surface is seriously affected end fatally. The whole nervous system has functioned very rapidly and with great intensity, and cannot undergo repair sufficiently to keep the organism alive. sult is coma, leading to death. danger of sepsis arises from the fact that the tissues beneath the skin have been laid open to the action of micro-organisms in the atmosphere. The extent to which the tissues have been laid bare determines the extent of the danger, the same precautions having been taken. Complications with respect to underlying or other organs may arise through the loss of the skin's functions, the disturbance of the blood supply, and the possible introduction of germs peculiarly harmful to those organs. Exhaustion of the system is a natural result of the strain occasioned by the healing process and interference with the French classical scholar, established nutritive functions, as in cases of scalds of the throat and stomach. The symptom demanding most immediate treatment is shock. Vitality should be preserved by wrapping the patient in hot blankets, placing hotwater bottles at the extremities, and

relieving pain, and promoting healing with a minimum of deformity or scarring. If the burn be slight, the blisters may be pierced, their con-tents drained off, the outer skin cut off and the surface treated with a weak solution of pieric acid. In deal-ing with severe B., care must be taken not to tear affected tissues by rough handling of clothing. The clothes should be carefully cut off, the whole surface should be treated with an antiseptic, and then the more permanent dressing adjusted. This usually consists of gauze soaked in picric acid solution and covered by antiseptic wool, the whole being lightly bandaged, as it is desirable to exclude all air, but without undue pressure upon the injured part. Two affected surfaces must not be placed in contact, as the result might be a union of the two surfaces. In cases where the destruction of the true skin has been extensive, skin-grafting has

adopted with satisfactory results. Burns, Rev. Jabez (1805-76), nonconformist divine, educated at Chester and Oldham Grammar School. While a boy he joined Methodist New Connexion: 1826 came to London: compiled Christian's Sketch-Book, 1828 (second series issued 1835); Spiritual Cabinet, 1829. B. did much mission-work on behalf of Scotch Baptists. becoming pastor of a Perth congrega-tion, 1830-5; 1835 pastor to Baptist congregation at Marylebone. He was said to have been the first clergyman to preach tectotalism from the pulpit. He delivered thirty-five annual temperance sermons, beginning Dec. 1839. Member of the Evangelical Alliance, formed 1845; after 1847 travelled in America, Egypt, and Palestine. Among his works are: ref
Notes of a Tour in U.S.A. and of
Canada in 1847: Helpbook for Tra- he
vellers to the East; The Golden Pot of popularity which he formerly enjoyed
Manna (Christian)
1848: Preacher's share in social legislation
Pastor's Monthly.

Pastor's Monthly .

Sermons, 1842.
Labours of Burns, Baptist Magazine,
March 1876; Perthshire Advertiser,
February 4, 1876.
Burns, John (b. 1858), was born
at Vauxhall, London, being the
second son of Alexander B., an engineer of Scottish extraction. received his education up to the age of ten at a national school, then he was sent to work, but he continued his education at night schools and read much. Especially was he at-tracted to the works of Paine, Mill, and Robert Owen. He worked at first in Price's candle works, after which he was for a short time a page, and finally was appronticed to an en-

he adopted his socialistic doctrines. being influenced thereto by his general reading, and also by the doctrines preached to him by one of his fellow workmen, who was a Frenchman, and had taken part in the Commune. He worked at his trade on land and on board ship, and finally went for a year to W. Africa, after which he spent six months in travelling over Europe. He had in the meantime taken up politics seriously, and had become known as a labour agitator. In 1878 he was arrested for addressing an open air meeting at Clapham, and in 1886 he cleared himself of the charge of instigating the mob violence on the occasion when the clubs of the West End had their windows broken. In the following year, however, he suffered six weeks' imprisonment for his share in the Trafalgar Square riots. In 1885 he had been unsuccessful as the candidate of the Social Democratic Federation at W. Nottingham. He was a member of the Amalgamated Soc. of Engineers trade union. He sat on London's first County Council as a Progressive member for Battersea. and in 1892 he entered parliament as the Labour member for the same division. In 1889 he had, together with Mr. Ben Tillet, been the chief organiser of the London Dock strike. He retained his seat for Battersea in 1895, and has continued to sit for that constituency down to the present time. He was made President of the Local Government Board in Sir Henry Campbell-Bannerman's administration, 1906, being the first working man to attain to cabinet rank. Many regard his legislation as sound,

share in social legislation his period of office, and is illy regarded as a steady and trustworthy minister. He introduced the House and Town Planning Bill in 1909, and is known as one of the hardest worked of all cabinet ministers.

Burns, Robert (1759-96), the greatest lyric poet Scotland has ever produced, was born Jan. 25, pear Ayr. He was the son of a gardener, who later in life turned farmer, and in spite of a hard struggle with poverty, succeeded in equipping his children with a good education. Although Robert had perforce to assist his father in his humble avocation, he still found plenty of time to assimilate so much instruction and reading that by the age of sixteen years he had acquired gineer. Whilst in his apprenticeship the elements of what was then renomy, belles-lettres, and, of course, his wife Jean Armour, the Bonnie poetry, at that time in a transition Jean' of one of his most beautiful state between the ponderous fancies lyrics. Private interest had also of the Popean school and the tinkling brought him the position of an exciseprettinesses of the Della Cruscans. Neither of these schools were likely to assist a young singer whose native time he found farming a failure, and talent leant strongly towards the natural, and although we discover marked traces of the influence of both in his later work we must regard B. as among the first to free English verse from the shackles of formalism which had bound it so long. At the age of sixteen B. was already a minor celebrity in his dist., and his convivial and generous disposition speedily brought him into contact with the bolder spirits of the neighbourhood, who regarded him as a species of local laureate. In 1781 he entered with his brother upon the tenancy of a small farm, a venture which proved most unfortunate, so much so that embittered by his lack of success he resolved to leave his native land and take ship for Jamaica. With the object of purchasing his passage thence he pub. his poems at Kilmar-nock in 1786. The result was a furore of appreciation which dazzled and somewhat unbalanced the young farmer. He was encouraged to proceed to Edinburgh and to publish a second edition there. This he did, and met with a splendid reception from the elite of literary circles in the capital. At many of the houses of the great he was wont to recite his poems to a rapt audience, and his genius was fully recognised. But when a man is born with an utterance like swift fire he is not as a rule particularly zealous regarding the proprieties, and B.'s habits speedily marked him out as 'impossible' in the circles which he had once illuminated. A vigorous habit of speech and criticism of persons whom their equals had agreed to treat with respect by reason of qualities too subtle or too difficult of discernment by the Ayr-shire farmer led him into disrepute, and the all too frequent occasions on which he transgressed against decency were too much even for an age of hard drinking, and social taboo was passed upon him with every show of reason. On the one hand B. was ignorant of the true reading of the term noblesse oblige. On the other his mighty soul soared high above the society folk with whom he was brought into contact, and whom, for the most part, he regarded with good-humoured contempt. Meanwhile the profits of his volume of poems pub. in the cap. had brought in a very considerable

garded as an 'elegant' education take the farm of Ellisland near Dum-This included the elements of astro- fries, where he settled in 1788, with man, or 'gauger' as they were then known in Scotland; but for a second retired to Dumfries, where he subsisted on his exciseman's salary which never rose above £70 per annum. At this period of his life he enthusiastically embraced the principles of the Fr. Revolution, and many of his poems and songs exhibit his hatred of the 'lordlings' who at that period held the peasantry of Scotland in a condition approaching helotage. At the same time it must be recollected that he had not disdained patronage on several occasions, but had certainly accepted it in a spirit of generous faith. His dissipated habits rendered him obnoxious to the 'respectable,' and as these grew upon him he began to consort with people who, however interesting on occasion or during the hilarity of a drinking-bout, were no companions for a man of his exalted and generous spirit. Deeper he sank into the pit which his own natural, joyous, and trusting disposition had digged for him. Remorse gnawed upon his heart of hearts, and he became gloomy and sullen, with only occasional flashes of his old magnificence; and at the last his sun set in gloom and sadness, for with health and fortune completely broken, he sank to rest at Ayr on July 21, 1796. Like Byron, B. was one of those poets who are as great as their songs. It was not his to create a social cult which might cluster around his personality, having for its basis the imitation of the mannerisms and idiosyncrasies of its idol. His cult was greater. It was and is the cult of the expression of nationality, of all that is virile and spirited in that elder Scotland which sank in a blaze of glory to the sound of his songs. To his countrymen he has left the deathless heritage of a song-craft unequalled in the lyric history of mankind. His lyre has run the gamut of the emotions, from the whisper of love to the fire-filled chant of war and liberty. In the utterance of no poet have passion and simplicity been so truly welded. The simple, almost rustic, lines are fulfilled and suffused with a lofty genius which compels the tears of both simple and learned. So intimate is the combination of artlessness and genius in the songs of B. that in no poet is it so difficult to trace the true quality of that genius. In none is it so elusive. It is ensum, with which he was enabled to woven in the very fibre of the verse,

from which it cannot be untwined. The felicity of B.'s language has probably never been equalled. This is due not so much to his perfect mastery of his medium as to his brilliant poetic penetration and his swift habit of intuition. But withal he exhibits no impatience with poetic rule, and nicely if naturally observes the proprieties of rhythm, diction, and metre. Concerning his position in our poetic galaxy there can be no question. He divides the lyric crown with Shelley, with whom he is equal in ardour, intensity, and originality, if inferior in imaginative power and mental scope. But had B. possessed Shelley's 'opportunities' his verse might have exhibited a flight and finish equal to that of the author of Prometheus Unbound. B.'s system of composition consisted of selecting Scottish folk-songs, which he made the basis of new and more poetical versions. But besides this he composed scores of original verses. purely lyrical work is too well known to require mention here. But his narrative and satirical work is by no means so widely perused. Perhaps his greatest work, apart from his songs, is his Tam o' Shanter, which is almost epic in parts, exhibiting a felicity of phrase and an epigrammatic ability which are far above the subject handled. His Twa Dogs bristles with keen satire against the social and religio-political follies of the time. His Cottar's Saturday Night is truly national in spirit, and strikes the note of all that is exalted and noble in the Scottish character. It only remains to notice B. as a letterwriter. In an age when the epistolary art was at the height of its prolixity and formality, and when explicitness, clarity, and real beauty of phrase were sacrificed to mere pomposity, B. partook copiously of the faults of his time; indeed they appear in him almost exaggerated. But he did not, like so many of his contemporaries, sacrifice feeling to bombast, and his tenderness was too much the result of genuine human affection to decenerate into maudlin sentiment. These qualities of humanity and tenderness appear throughout his works to dominate even the waywardness which was perhaps his principal characteristic. He was a great poet, a great lover of humanity, and a great natural man; and 'his faults were the faults of his qualities.' See R. Chambers, Life and Works, new ed., 1896; A. Lang's ed., 1896; W. E. Henley and T. H. Henderson, Poetry of Robert Burns, 4 vols., 1901; Sir Leslie Stephen, in Dict. of Nat. Biog.; T. H. Henderson, Robert Burns, 1904.

Burnside, a suburb of Adelaide, S.

Australia; pop. about 1500. Burnside, Ambrose Everett (1824-81), American soldier, a native of Liberty, Indiana. He became a Liberty, Indiana. He became a member of the Military Academy of the U.S.A., and at the close of the Mexican War graduated, 1847. He resigned his commission in 1853 and adopted the manuf. of firearms. Three years later he invented a breech loading rifle. The Illinois Central Railway employed his services till the Civil War broke out. He took a prominent part in the first battle of Bull Run, and was appointed brigadier-general of volunteers in 1861. He sailed in the following year for the N. Carolina coast, and in the ensuing campaign won the victories of Roanoke, Newbern, and Fort Macon. Shortly afterwards he was made major-general. U.S.V. President Lincoln appointed him to succeed Maclellan to the army of the Potom --

defeated at and aroused

oppression of press opinion. The failure of the 'Burnside mine' caused his resignation in 1864, and in 1866 he became governor of Rhode Is. He was a republican member of the congress till his death. He died at Bristol, Rhode Island.

Burnside, Helen Marion (b. 1844), artist and poet, exhibited at the Royal Academy in 1863. From 1880 to 1889 she was designer at the Royal School of Art Needlework. For the next five years she was editor at Messrs, Raphael Tuck. She also wrote many songs and magazine stories, but she is known more especially as the writer of children's books.

Burnt-Ear, or *Uredo carbo*, a species of fungus of the order Uredinae which is particularly destructive to corn. The seed-coat of the grain attacked is covered with a black dust, while the interior seems to be untouched, but is found to be abortive.

Burntisland, a Fifeshire scaport. It is situated on the Firth of Forth, 5 m. N. of Granton. The opening of the Forth Bridge scriously damaged its trade, which had depended upon steam ferry work. Coal is shipped in consider

Burni ment.

in Italy

taining oxides of fron and manganese. The substance is brownish-yellow in colour, which deepens to a reddish-brown when the earth is burnt.

Burnt Stones, old carnelians possessing a glowing red colour when held to the light. They are found in ruins, and have a dull appearance externally. They appear to have been acted upon by fire.

Burr, Aaron (1756-1836), an American legislator, and native of New College, At Princeton where his father and grandfather had occupied the presidency, he graduated. He joined the patriot army in 1775, and two years later was rewarded for his valour and abilities by promotion to lieutenant-colonel. He retired in 1779, and was called to the bar, where he quickly assumed a prominent position. From 1788 to 1790 he was attorney-general, and United States senator from 1800 to 1804. He fought a duel with Alexander Hamilton, who was responsible for his defeat in obtaining the governorship of New York, and killed him. Flight to S. Carolina was necessary till the excitement lessened, at which time he returned. An attempt to raise a re-volution in Texas in order to establish a republic there, resulted in his arrest. He was acquitted, but nevertheless sustained grievous social ostracism. A return to his practice failed hopelessly, and he died miserably on Staten Is. During his last years he was maintained by a friend.

Burr, William Hubert (b. 1851), an American engineer, was born at Watertown, Connecticut. In 1899 he was appointed a member of the Isthmian Canal Commission to report upon a route for the Panama Canal; in 1904 he was appointed a member of the commission to construct the canal; and in 1905 he was appointed a member of the International Board of Consulting Engineers to determine the plan of the canal. He became professor of engineering at Harvard University in 1892, and at Columbia University in 1893. He has done important engineering work at New York and elsewhere, and published a number of works on engineering.

Burra-Burra, a celebrated copper mine in S. Australia. It is situated N. by E. of Adelaide, and is 101 m. distant. Ore to the value of £4,000,000 has been mined, though operations are

no longer so remunerative.

Burrard Inlet, a narrow inlet of British Columbia, situated at the S.W. extremity. It forms a magnificent harbour, whose value has been en-hanced by the inauguration of the Canadian Pacific Railway.

Bur-reed is the name applied to the species of Sparganium, of the order Sparganiaceæ, plants common to Britain and Australia. S. simplex and S. ramosum occur in ditches and

Burritt, Elihu (1810-79), American philanthropist, commonly called 'the learned blacksmith.' He was a native of New Britain, Conn. His grandfather and father had served in the revolutionary army. His education was selfobtained from whatever books were available at home, which was a shoemaker's bench. He became apprenticed to a smith at the age of sixteen, and adopted smith work as his trade. He was able to indulge a passion for literature in any form in his spare moments at the forge, while for a short time he attended a school kept by his brother Elijah. In this desultory fashion he conquered Lat., Gk., Fr., Spanish, and Ger., and by the time he was thirty years of age could speak fifty languages. He gradually quired fame with his increasing store of knowledge, and soon embarked upon a lecture tour to various places in U.S.A. and Europe on behalf of peace. He organised the Friends of Peace at Brussels, Paris, Frankfurt, London, Manchester, and Edinburgh, and published innumerable pamphlets. He founded the Christian Citizen at Worcester to advance his views. He returned to America and died at New Britain.

Burroughs, John (b. 1837), American poet and authority on natural history. He was born at Delaware, New York. Among his early call-ings were teaching, journalism, and farming. In the treasury dept. of Washington he served as a clerk for Washington he served as a cierk for nine years. His early productions were Notes on Whitman and Wake Robin. Later he produced Birds and Poets. Locusts and Wild Honey, Signs and Seasons, and Ways of Nature, in prose, while in verse he pub. a vol. called Bird and Bough. His later works are marked by a decrease willosophy than is shown in

deeper philosophy than is shown in

those previous. Burrowing Owl, or Speolyto cuni-cularia, is a bird which belongs to the family Strigidæ, and is a native of It is about 9 in. long, has America. no ear-tufts, and its legs are long and poorly feathered. It inhabits burrows and holes of cavies, lizards, foxes, squirrels, and other animals, and there it makes its nest.

Burrows, Montagu (b. 1819), was b. at Hadley, Middlesex. He entered the navy, and rose to the rank of commander, 1852. He then went up to Oxford, taking a double first, and from 1862 till 1900 was Chichele proshallow ponds of Britain.

Burriana, a Spanish tn. and seaport situated on the E. coast, in the prov. of Castéllon de la Plana. Its pop. is 12,962 (1900). Oranges are the chief export, while there is some trade in oil, grain, and wine.

Gessor of modern history. He became a fellow of All Souls in 1870, and published Worthies of All Souls in 1874. His other works include: Memoir pop. is 12,962 (1900). Oranges are the of Admiral Sir H. Chadz, G.C.B.. 1869; Parliament and the Church of in oil, grain, and wine. Commonwealth, 1881; Wiclif's Place it was found to be more vigorous than in History, 1882; Life of Admiral before. It is now, however, non-Hauke, 1883; History of the Cinque Ports, 1888; Commentaries on the History of England, 1893; History the Foreign Policy of Éritain, 1895.

Burrus, Afranius, a native of Gaul who became a Roman soldier of distinction. He was the trusted agent first of Livia and then of Tiberius and Claudius. He had a share in the edu-cation of Nero, and aided Agrippina in bringing him to the throne in preference to Britannicus. When the partisans of Britannicus were punished B. succeeded to the important command of the prætorian guard. He was put to death by Nero in A.D. 63.

Bursa, a synovial sac or closed space containing liquid between two moving surfaces of the body. function is to lessen the effects of friction, and B. may either be permanently situated for that end, or developed in a part where friction has caused a certain amount of irritation of the tissues. B. may be classified as: (1) B. between the covering skin and bony projections, as at the point of the elbow and at the knee-cap; (2) B. between tendons and the surfaces they cross: (3) B. between tendons and the walls of osteo-fascial tunnels.

Bursar, a keeper of the purse (bursa). This, however, was the literal inter-pretation, and to-day its official adop-tion is in reference to the controller of the treasury of a college or school. It also applies to the holder of a scholarship in certain secondary schools. Burse is the name given to the

purse of the Lord High Chancellor of England.

Bursaria is a genus of Protozoa of large size, in which the body appears to be convex above and concave below. Lamarck described five species of these fresh-water creatures, of which B. truncatella was one.

Burscheid, a tn. of Prussia. It is situated on the R. Wupper, and manufs, woollen goods and plush. Its

pop. is 6884.

Burschenschaft, the name of a famous association of students of the universities of Germany. Its object is to encourage and engender patriotism and a Christian bearing, and it was instituted as an effect of national feeling in Germany caused by the War of Liberation. Its origin began at Jena, and the grand-duke of Saxe-Weimar became a patron. During the revolu-tions of 1830 the B. took a prominent part, notwithstanding the crushing policy towards it of the Carlsbad Decrees. In 1833 the body was suppressed, though without the desired result, for in 1848, when all restrictions levied against it were removed,

political, and simply a social function. A branch of the society aims at the

cessation of duelling.

Burseraceæ is a natural order of dicotyledonous plants which are found in the tropics, and yield balsam, resin, and gum. The flowers are small and regular, with the disc usually annular, in parts of four or five, with a syncarpous gynœcium consisting of three to five carpels, with two ovules in each loculus. The fruit is a drupe or a capsule, and the bast contains resin passages. Two well-known species are Boswellia serrata, which yields olibanum, and Commiphora abyssinica, which yields myrrh.

Bursitis, inflammation of a bursa. It may be acute, when pus forms after an injury or strain, as in the knee-cap. The joint should be cleansed and absolutely rested for some time. B. may also be chronic, when a large amount of watery fluid collects at a joint, with possible formation of concretions within the bursa or thickening of its walls. This is usually due to pressure constantly applied to a joint as in 'housemaid's knee.' The joint should be rested and the bursa drained. The period of resting should be prolonged as much as possible, as there is always a likelihood of the condition being established again if the joint is subjected to the same usage as formerly.

Burslem, municipal bor., parl. bor., and market tn., is situated on the Grand Trunk Canal, 20 m. N.E. of Stafford, in N. Staffordshire, England. It is within the parl. bor. of Hanley and on the N.S. Railway. Area 1862 ac., and pop. 38,766. It is the oldest of six tns. forming the potteries, and so has been named the 'Mother of the Potteries.' It produces porcelain, parian, encaustic tiles, etc. There are also colour works and a glass factory. It was the bp. of Josiah Wedgwood, 1730-95, the great improver of the earthenware manuf. of Staffordshire. The Wedgwood memorial, 1865, com-prises a school of art, a free library, and a museum. The tn. is very old. In the neighbourhood are coal and ironstone mines.

Bürstadt, in Germany, in the grand duchy of Hesse-Darmstadt, 41 m. E.

of Worms; pop. 4000.

Burt, Thomas (b. 1837), Labour leader and M.P. for Morpeth since 1874, was the son of a Northumberland miner. After a scanty education in village schools, he worked in a coal mine from ten years of age till 1865, when he was elected secretary of the Northumberland Miners' Mutual Provident Association. He was president of the Miners' National Union in 1882,

Burton

and of the Trades Union Congress in 1891. He was one of the British representatives to the Labour Conference convened by the Emperor of Ger-many in 1890. From 1892 till 1895 he was parliamentary secretary to the Board of Trade, and he became a member of the Privy Council in 1906.

Button, Sir Frederick William (1816-1900), British painter, born in co. Clare. Educated at Dublin under the direction of Mr. Brocas. Elected associate of Royal Hibernian Academy when only twenty-one years of age. In 1842 he began to exhibit the Boyal Landemy He travelled. of age. in 1842 he began to exhibit at the Royal Academy. He travelled much on the continent of Europe, where he gained an intimate knowledge of the works of the old masters. In 1874 he was appointed director of the British National Gallery. Elected associate of the R.S. of Painters in Water-Colours in 1855. He was knighted in 1884. He died in Kensington.

Burton, John Hill (1809-81), Scottish historian, born at Aberdeen. He graduated at Aberdeen University, and was articled to a writer, but his articles were cancelled, and he went to Edinburgh to qualify for the bar. His practice was not large, and he had to devote himself to literature. During this time he wrote for the Edinburgh this time he wrote for the Edinburgh.

Almanuc, Westminster Review, and contributed to the Cyclopædia of Universal Biography, and Waterston's Cyclopædia of Commerce. In 1844 he married, and in 1846 he achieved great distinction with his biography of Hume. In 1847 B. produced his interesting biographies of Lord Lovat and Duncan Forbes. In 1854 he was appointed secretary to the he was appointed secretary to the Prison Board of Scotland, and became a prison commissioner. He held office as historiographer royal for Scotland, and was LL.D. of Edinburgh University, and D.C.L. of Oxford. He contributed to Blackwood's Magazine and the Scotsman, and his chief works are: The Book Hunter, The Scot Abroad, Cairngorm Mountains, Political and Social Economy, and, above all, History of Scotland from Agricola's Invasion to Revolution of 1688.

Burton, Sir Richard Francis (1821-90), British explorer, born at Borham House, Herts. He spent most of his childhood in Italy and France. He was educated at Trinity College, Oxford, and entered the Indian army in 1842. During his stay in India he studied assiduously the various Oriental Oriental wnich was 'co---assiduously the various Oriental which was a languages, and rapidly reached pro-lost, but ficiency. He was appointed assistant in the Sind survey, which enabled of Melancian, appeared in 1021, and him to mix with the people. He frequently passed as a native in the critus Junior. In his somewhat bazaars, and thus gained an excellent lengthy preface he had referred to the

knowledge of eastern life and customs. On his return home he pub. an important work on Sind, together with three other books. In 1853 he made a pilgrimage to Mecca, which was to make him famous. He went disguised as an Indian Pathan. The book he wrote, called The Pilgrimage to Al-Medinah and Meccah, contains a most interesting account of his journey and exploits. His next journey was into the Somali country in Eastern Africa. He went to Harrar, the Somali cap. which had hithertonever been entered by a white man, and stayed there four days. Afterwards he vanished into the desert, and nothing was heard of him for four months. He next served on General Beatson's staff in the Crimea. In 1850 he went with Speke to Africa. and explored the lake regions of Equatorial Africa. They discovered Lake Tanganyika in 1858, and Speke, during B.'s illness, discovered Victoria Nyanza. In 1861 B. was made consul of Fernando Po, whence he was shifted successively to Santos in Brazil, Damascus, and Trieste, which post he held till his death. B. marpost ne neid till his death. E. mar-ried Isabel Arundel in 1861, and she accompanied him henceforth on all his journeys. He received the gold medal of both Fr. and Eng. Geo-graphical Societies. He was master of thirty-five languages and dialects. He was knighted in 1868. He wrote numerous books, chief of trich are was knighted in 1868. He wrote numerous books, chief of which are: Wanderings in West Africa, Abcolcula, and the Cameroons, First Foolsleps in East Africa, The City of the Saints, Hindu Tales. His chief work is his translation with copious notes of the Arabian Nights, 1885-88. He also trans. The Lusiads of Cameens. His wife wrote a story of his life, and also built an Arab tent of stone and marble to his memory at Mortales. See also to his memory at Mortlake. See also Life by T. Wright, 1906. Burton, Robert (1577-1640), a well-

known English writer, famous for the Analomy of Melancholy. He was born at Lindley in Leicestershire on Feb. He received his education principally at Nuneaton Grammar School and later entered Brasenose College. In 1599 he became an elected student at Christ Church. In 1616 he became vicar of St. Thomas, and in 1630 rector of Segrave in Leicestershire. He held both livings until his death. Some years previous to his death he

influence of Democritus and Hippo-70 m. S.E. of Hamadan, in tertile crates upon his proposed work, and Silakhor plain; pop. 25,000. also gave his reasons for writing it. In the book itself he first defines melancholy, and divides it up into its Sydney, on Great Southern Railway; various kinds.

examine the and then goes

by which it may be cured. The fourth and last section deals with religious melancholy. The Melancholy was more popular and more widely read during thelatter part of the 18th century than it had been during the 17th. The curious learning found in Tristram Shandy had been pillered from this book, and it was Ferrier's edition of Tristram Shandy, in which he pointed out Sterne's unacknowledged obligation to Burton, which drew attention once more to this almost forgotten book.

Burton-in-Kendal, a tn. and parish in the district of Kendal, adjoining Furness, and belonging to Lancashire. B. is 10 m. S. of the town of Kendal, and is situated on a limestone ridge with large pockets of iron-ore in its

vicinity.

Burton-upon-Trent, a municipal co. and parl. bor. in S.E. Staffordmunicipal shire, England, is situated on the river Trent, and Trent and Mersey Canal, W.S.W. of Derby. It is on the Midland and North Staffordshire Rail-Area 4202 ac. Pop. 50,386. It is an old town formerly the seat of a Saxon abbey. In 1801 the pop. was not much over 6000. Its rapid growth dates from the opening of the Midland Railway in 1839. Brewing of ale, the staple industry, commenced in 1708. The prin. breweries are those of Bass and Allsopp, the former of which covers 200 ac. of ground. B. has also coal, fire-clay, and potteries, iron and boiler works, copper works. plaster, and cement mills. The town hall, built in 1896, was presented to the town by Lord Burton. Burtscheid, a tn. of Rhenish Prussia,

and a suburb of Aachen (Aix-la-Chapelle). It manufs. woollens, and has sulphur springs and baths. Pop.

16,400.

Buru Island, an is. of the Dutch E. Indies, belonging to the residency of Amboyna, Area, 3400 sq. m. The Amboyna. Area, 3400 sq. m. surface is mountainous and the sea-board is marshy. The longest riv. is Kajeli. The highest mts. are in the W. where they reach the height of 8530 It. Most of the land surface is covered with forests and prairies. The only important exports are cajeput oil and timber. The inhab, are chiefly Malays on the coast, and Chinese and other races in the interior. Pop. about 15.000.

Burujird, important trading centre in Persia, in the prov. of Irak Ajemi, N. of the R. Mandego, in the prov. of

Burwood, a municipality of South Wales, Australia, 7 m. W. of

Bury, municipal co. and parl bor., is situated 5½ m. N.W. of Bolton, in the co. of Lancashire, England. It is on the Lancashire and Yorkshire Area, 5907 acres. Railway. Area, 5907 acres. Pop. 58,029. It is situated on an eminence between the Irwell and the Roche. and is a clean, well-built The staple industry is the cotton industry. There are also extensive works for bleaching, calico-printing, dyeing, engine-making, and the making of machinery; there is still some woollen manuf., and in the dist. are coal pits and stone quarries. B. has four recreation grounds well laid out. It is connected by canal with Manchester and Bolton.

Bury, John Bagnal historian, was a son of Rev. E. J. B., canon of Clogher, and was educated at Trinity College, Dublin. came professor of modern history at Dublin in 1893, regius professor of Greek in 1898, and regius professor of modern history at Cambridge in 1902.

His works in edition of Gil 1896 - 1900 Nemean and

1892; and sev the later Roman empire. Burying Beetles, or Necrophorus, constitute a genus of the family of Silphidæ. They are known also as carrion and sexton beetles, from their habit of burying small vertebrates by digging the ground from beneath the carcase until it sinks; the female then lays her eggs in the decaying matter. They make a curious chirping sound by rubbing the abdomen against their wing-cases.

Bury St. Edmunds, parl. and municipal bor., is situated on the R. Lark, 28 m. E. of Cambridge, in the co. of Suffolk. Area, 2947 ac., and pop. 16,255. It has maltings, manufs of agric. implements, and a trade in agric. produce. It is the depôt of the Suffolk regiment. There are barracks to the W. of the tn. B. S. E., with its abbey, was founded by Canute, the famous Dan. King of Britain, to comfamund,

rammar ard VI. ardiner, of Lon-Bacon,

lawyer and statesman, and many other eminent men. The bor. returns one member to parliament.

Busaco, a ridge about 1800 ft. high,

Here the British Portugal. Beira. under Lord Wellington repulsed the French under Massena in Sept. 1810.

Büsbach, a tn. with coal mines and woollen manufs. in the Rhine prov. of

Germany; pop. 5800.

Busbecq, Augier Ghislen de (1522-92), a Flemish diplomat and traveller, was born at Commines, and received a varied education at the universities of Louvain, Paris, Venice, and Padua. Though he held various offices at the court of Emperor Ferdinand I., and was employed in a series of important negotiations. he is now chiefly remembered for his two visits to the court of Soliman II., Sultan of Turkey, at Constantinople. His invaluable letters dealing with these embassies, 1556-62, serve to illuminate the Turkish politics of the time. It seems likely that he intrigued further to embroil the sultan with the Shah of Persia in order to stop the former from pursuing his aggressive opera-tions near Constantinople. 'Tis only the Persians stand between us and ruin,' he said, 'the Turk would fain be upon us, but he keeps him back.' In his journeys eastward he was accompanied by an artist who made drawings of rare animals and plants, and he came back to Europe with a fine botanical collection, besides many MSS, and coins. On his return to Vienna in 1562 he became tutor to the children of Emperor Maximilian His Discourse of the State of the Ottoman Empire and his accounts of his travels in Turkey, contain material that is of the utmost value to the historian of Eastern Europe.

Busby, the head-dress of the hussars and horse artillery of the British army. It consists of a fur cap with an upright plume in front and a short bag of the same colours as the facings of the regiment hanging from the top down the right side. The name is also used for the rifle head-dress, a folding cap of astrachan, and colloquially for the bear-skin caps of the footguards and fusiliers. The name is probably of Hungarian origin, and the bag a the Hungarian survival of the Hungarian long padded bag which hung over the right shoulder to ward off sword-cuts.

Busby, a Scotch vil. on the borders of Renfrewshire and Lanarkshire, on White Cart Water, 5 m. from Glasgow. on Caledonian Railway. Cotton-mill, print-works. Pop. about 2000.

Busby, Richard (1606-95), a noted Eng. schoolmaster, educated at Westminster and Oxford; from 1640-95 he was headmaster of Westminster School; he is said to have educated more distinguished men than any other teacher; among his pupils were Dryden, Locke, Robert South, Atterbury, Henry, and George Hooper. A

severe disciplinarian, his name has become a byword for harshness, but he was kind-hearted and charitable to the poor. At the Restoration he was made prebendary of Westminster. His works were mostly school editions of the classics. See Life of Philip Henry, by Williams; Evelyn's Me-moirs, iii.; Seward's Ancelotes of Dis-tinguished Persons; Warton's edition

of Pope's works. Julius Busch, Hermann Moritz (1821-99), a German author and journalist, was born at Dresden. He entered the university of Leipzig in 1841, and there studied theology and whilosophy. but soon drifted into philosophy, but soon drifted journalism and literature. When about thirty years of age he travelled extensively in America, Greece, Egypt, and Palestine, and published the results of his travels. From 1856 onwards he wrote for the Grenzboten at Leipzig, the organ of the Nationalist party. Then, after a short connection with the Augustenburg party in Schleswig-Holstein, he was employed in various capacities by the Prussian government. He served under Bismarck, and published several books concerning the great German states-man. In 1878 he published Graf Bismarck und seine Leute Während des Krieges mit Frankreich, which, as the title indicates, gave an account of Bismarck's doings during the war of 1870-71, when B. (as one of his press agents) was closely associated with This and other writings were him. incorporated in his important Life of Bismarck, first published in 1898. was re-issued in an improved form a year later. B.'s Unser Reichskanzler, 1885, dealt mainly with the administration of foreign affairs. He died at Leipzig.

Busch, Wilhelm (1832-1908). German comic artist and caricaturist. was born at Wiesendahl, Hanover: studied at academies at Düsseldorf. Antwerp, and Munich. In 1859 he drew humorous sketches for the Fliegende Blätter, the leading German comic paper. He was the founder of modern German caricature. In 1860 he published the first of a series of humorous illustrated poems-Max und Moritz-followed by Der Heilige Anionius von Padua, Fromme Helene, Hans Hucklehein, and others. humorous drawings and caricatures are exceedingly clever, and are notable for their simplicity. The types created by him are bywords in every German household. He enjoys the same reputation for nonsense rhymes as Edward Lear in our own country.

Büsching, Anton Friedrich (1724-93), Ger. geographer and theologian. Professor of philosophy at Göttingen, 1759; minister of Protestant congregation in St. Petersburg, 1761; went to Berlin, 1766, as a director of a gymnasium. One of the creators of modern geography, his Description of the Earth (1754-92) was the most complete and scientific work of the kind. and was translated into many lan-Wrote also Magazine of guages. History and Geography, 1767-93; Biographies of Celebrated Persons; History of Lutheran Churches in Poland and Russia, 1784-7. See his Lebensgeschichte, 1789.

Büsching, Johann Gustav Gottlieb (1783-1829), a German antiquary and man of letters, son of Anton Friedrich B., was born at Berlin. In 1811 he was appointed royal archivist Breslau, and in 1817 professor of archæology at Breslau University. His numerous publications include Deutsche Gedichte des Mittelatters

(3 vols.), 1802-25.

Buschmann, Johann Karl Eduard (1805-80), a German philologist, born at Magdeburg. His philological re-searches were chiefly concerned with the languages of Central America, among his works being Ueber die among his works being Ueber die attetischen Orlsnamen, 1853; Die Spuren der attetischen Sprache im nordlichen Mexico, 1859; and Die Völler und Sprachen neumexicos, He was associated in philological work first with Wilhelm von Humboldt, and afterwards with Alexander von Humboldt, assisting the latter in Kosmos and other He edited the Ueber die Kawisprache of Wilhelm von Humboldt, and also wrote on the Atha-pascan and Apache languages, as well as Grammatik der sonorischen Sprachen, 1864-69. He became libra-rian of the Berlin Royal Library in 1832, and a member of the Academy of Science in 1851.

Busenbaum, Hermann (1600-68), a famous Ger. Jesuit, b. in Westphalia.

giæ ancing regici peared later.

Bush, a name given in British colo- lound, showing that the place was an nies, particularly in Australasia and S. old Elamite settlement. Pop. 27,000. Africa, to tracts of land covered with

brushwood and shrubby vegetation.

Bush Antelope, Bush Buck, or

Tragelaphus sylvaticus, is a species of harnessed antelope, but it has not the white stripes common to its relatives. It belongs to S. Africa, and is a member of the family Bovidee.

Bushel (from Gk. πυξος, a box tree, also its wood through Old Fr. boissel) is a dry measure used for corn, fruit, etc. The imperial B., instituted in 1826, measures 2218.2 cubic in., and holds 80 lbs. of distilled water (temperature 62° F.; barometer, 30 in.). One B. is equal to one-eighth of a quarter and to eight gallons.

Bushey, a small vil. in the co. of Hertfordshire, 16 m. N.W. of London, and 1½ m.S. of Watford on the L. and N.W. Railway. There is a fine art

school here, estab. by Sir Hubert Herkomer in 1882. Pop. 2100.

Bushey Park is a royal park on the R. Thames in the S.W. of the co. of Middlesex, England. It was occupied by William IV. when Duke of Clarence. The famous triple avenue of limes and horse-chestnuts, 1 m. long, was planted by William III. The park contains a national physical laboratory.

(' military-knight-ways ' Bushido or ' way of the warrior '), the code of honour of the Samurai, or military class, of Japan. It corresponds with European chivalry, and had a similarly feudalistic origin, coming first into prominence in the 12th century. 'Poem-composing pastimes,' according to a 16th-century set of rules, are not to be engaged in by Samurai.'

Bushire, also written Bushehr. Abushehr, and often trans. as 'father of the city,' is a prin. scaport of Persia, situated on the northern shore of the Persian Gulf. It occupies the northern end of a peninsula, and is encircled on all sides except the S. by the sea. The climate is very hot in the summer months, and is unhealthy. The city is deficient in water, and that required for drinking has to be brought from wells 2 or 3 m. distant. distance the city presents a beautiful appearance, but on closer examination the streets are found to be narrow, filthy, and badly paved. Most of its export trade is with Britain and her colonies. Chief exports are opium, and [tobacco, wool, perfumery, dyes, and Moralis, which went through forty-gums, and horses. B. is the head-five editions, 1645-70. It roused no quarters of the Eng. naval squadron real opposition till it appeared in in the Persian Gulf, the land terminus Lyons and Cologne, 1716-33; con- of Indo-European telegraph, and the demned to be burnt by parliaments of chief station of the British-Indian Paris and Tou

the vicinity, indistinct inscriptions have been

Bushmen, or Bosjesmans, a nomadic people of S. Africa. Some connection has lately been made between the B. and the Pigmy peoples inhabiting forests of Central Africa. The B. are now mostly found in the dists. extending from the inner ranges of the mts. of Cape Colony, through the

Kalahari Desert, and thence to the dists about the Orambo R., N. of Damaraland. Their language approaches that of the Hottentots, and is monosyllabic. Its chief peculiarity is the curious 'clicking' sound. They can only count up to two, and after that numbers are expressed by 'many.' In appearance they are of low skull, and large and prominent cheekbones. They are of a dirty rellow colour. Their only clothing, is a piece of skin in a triple angular form, which is passed under the legs and tied round the waist. The women wear long skin wraps. The days of Formicariide, a family of species of Formic holes in the earth. Their household The ostrich egg-shell is used for carry (q.r.) in its method of filling its larder ing water. The people live chiefly by impaling victims on thorus. hunting, using for weapons the primi-tive bow and poisoned arrows. They reputed founder of Thebes, eat practically anything, roots, game, honey being some of their delica. Zeus. He commenced by sacranemacies. B. are intelligent, musical, and the seer, and afterwards seized fond of dancing, and are passionate Hercules for this purpose, but was lovers of freedom. There is practi- himself slain by the hero.

Rusk at n of Austria. on R. Bug, cally no tribal organisation. Somethings individual families unite and 27 m. N.E. of Lemberg, in crown land choose a king, but this is only temporary. They have no concrete idea of God, but believe in evil spirits and choice organisations of the volunteer supermixing height many contract. Have added to the contract of the colunteer supermixing height many contract.

ordained pastor of the Congregational at Kensington. Church at Hartford, where he soon California (afterwards a university). Among other publications are Folli-Some of his chief works are: Christian lore of Rome, and collections from the Nurture, Nature and the Super-East and the Tyrol, natural, The Vicarious Sacrifice, and Buskerud, a bailiwick of Norway,

Bushrangers, in Australia, a class of

In 1815 martial law was proclaimed in this district, and a determined effort was

sist of low huts made of reed mats, or species of Formicariidæ, a family of holes in the earth. Their household birds found in S. and Central America. birds found in S. and Central America. utensils are few and roughly made. The B. resembles the butcher-bird

Busiris, mythical king of Egypt, and told him he could only avert famine insects, snakes, frogs, lizards, and by sacrificing a foreigner yearly to honey being some of their delica- Zeus. He commenced by sacrificing

supernatural beings: most B. carry movement. Hewas educated at King's charms. On the death of a tribesman College, London, and Trinity College, a pile of stones is reared on the spot Cambridge. Called to the bar in 1841; and then the whole family deserts the made high sheriff of Radnorshire in home. Northward the B. appear to 1847. He founded a rifle club at the improve both in stature and in general university and lectured on the volun-condition. Rude examples of their art teer movement. He helped to revive still exist in caves of South Africa. the Victoria Rifles. He was also Bushnell, Horace (1802-76), eminent, familiar with naval construction, and American theologian, was born at was the first to advocate the estab-Bantam, Connecticut. He graduated lishment of life-ship stations. He at Yale in 1827, and in 1833 was helped to found the School of Cookery

Busk, Rachel, sister of Hans B., was became famous on account of his re- la well-known writer and traveller, markable power as a preacher and she was extremely well versed in the for the depth of his theological write- follows of mark I respect accounties, ings. He took an active interest in supplies of the corganisation of the college of the rest in the corganisation of the college of the rest in the rest of Patranas.

God in Christ. For the latter he was in the diocese of Christiania, containcharged with heresy, and unsuccessful ing an area of 5790 sq. m. and a attempts were made to bring him to pop. of 112,600.

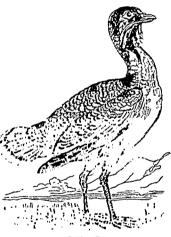
Buskin, a half-boot or high shoe lacing tight to the leg; used largely armed robbers, originally consisting by anct tragedians in order to increase of runaway convicts. They formed a their height. It is opposed to soccus districts (sock), the light shoe worn by actors Iring the of comedy.

Bussa, see Boussa. Bussanga, ree Borgu. Bussora, see BAERA.

Bust (from the Low Lat. bustum). is a head and shoulders representation of a person carved in the round. The Greeks used to carveideal Homers and Sapphos, but the B. of Pericles is almost the earliest authenticated portrait. Life-like Bs. of the Roman emperors, most of them set on a pedestal, may be seen at the British Museum. A B., of course, may be carried out in any material, marble, bronze, etc.

Bustamite, a variety of the mineral rhodonite (MnO.SiO2). B., in addition to the silica and manganese, contains also from 9 to 15 per cent. of It is greyish-red in colour and crystallises in the triclinic system.

Bustard is a word derived from the Latin Avis, bird, tarda, slow, and is applied to the family Otididæ. Otis tarda, the great B., is now found only in temperate continental Europe, and



BUSTARD

as far E. as Persia, but was formerly known to be the largest land-fowl of Britain. The male bird measures about eight feet across the wings and four from its bill to its tail. England in 1838.

Busto Arsizio, à tn. of Northern Italy, and situated 20 m. N. of Milan. It has an interesting old church and manuis. cotton thread. Pop. 9300.

Butan, sec BHUTAN. Butane, the name of two hydro-carbons having the formula C.H.₁₀. B., CH.₂CH.₂CH.₄, is an inflammable

similar properties with boiling point about -11.5° C.

Butcher. Samuel Henry 1910), classical scholar, was born in Dublin, a son of the late Samuel B.. bishop of Neath. He was educated at ridge, and in

as professor resigning in

1903.He was a Unionist M.P. for Cambridge University from 1906 till his death. His works include Some Aspects of the Greek Genius, 1891, Aristotle's Theory of Poetry and the Fine Arts, with a critical text and Translation of the Poetics, 1895.

Butcher-bird is the name given to members of the shrike family, or Laniidæ, which impale the small animals they catch for food on thorns until they require them. L. excubitor is the great grey shrike, L. minor the

lesser grey shrike.
Butcher's Broom, or Ruscus aculeatus, is a European species of Liliaceæ which grows as a shrub in Britain. It is noted for its curious branches. which are phylloclades arising in the axil of a small scaly leaf. The phylloclade resembles a flattened leaf in the middle of which the flowers are borne in the axils of minute scaly leaves. The flowers are diclinous, and the

The nowers are dicinous, and the fruit is a berry.

Bute, John Stuart, third Earl of (1713-92), was the son of the second Earl of Bute, and of the daughter of the first Duke of Argyll. He was born on May 25, 1713, and succeeded to the title in 1723. He was elected as a representative near of Scotland in representative peer of Scotland in 1737, but made no stir in the political world, and retired to hishome in Bute, where he lived until, after the '45, he took up his residence in England. His introduction into a prominent part in English court life was practically accidental. He was called upon to perform some trivial service for the Prince of Wales in a moment of emergency, and immediately became a great friend of the prince and princess. After this date, 1747, he was constantly in attendance on the Prince of Wales, and had great influence with him. On the death of Frederick his influence over the young Prince George was very great, and it was he who instructed the prince on the lines of Bolingbroke's patriot king and gave I the power Between '

took a very active part in political negotiations, but was practically a political nonentity save for his influence when the death of George II. raised him to a position of permanent importance as the confident of the new king in 1760. He immediately cas with boiling point 1°C., and new king in 1760. He immediately isobutane, (CH₂)₂CHCH₂, is a gas of began to carry out the policy in which he had already instructed one of the worst which has ever been George III., of making the king of known in English politics, and indeed methods were effective even though were used to spread disruption. Pitt admired. resigned, B. was given a place as Secretary of State, and in 1761 he also 1761 had declared in favour of war with Spain, and on the refusal of the king to declare war had resigned. The Pitt. and his own nationality, all combined to make B. unpopular. He was attacked in the street, and his coach destroyed, a jack boot and a petticoat (to represent the queen) were continually being burnt. He was scurrilprincess-mother was made the subject of vile scandals, in which there the chief the. Mt. Stuart, 4 m. S. of was not an atom of truth, and to crown everything, in 1762, he was forced to declare war with Spain. Still he hurried on perceptations. the enemy for peace, and the deser-tion of his ally, Frederick the Great, was simply unforgivable, nor was it forgiven by Frederick. He was made a K.G., and in 1763 peace was made at Paris. Bribery and corruption had by this time obtained for him a majority in the House of Commons, but he still aroused the jield a bright yellow dye. B. superbabitterest hostility by his policy, and grows on the mts. of Coromandel. he still continued his attacks upon the Whig oligarchy. Everywhere he Caltanissetta. Pop. 5900. was attacked, and the attacks did not spare him in any way: it is in fact safe to ignore the majority of the charges to ignore the majority of the charges of malpractices which have been brought against him from so many sources. In April, 1763, so bitter had the attacks become, and so much were they felt by B., that he resigned. He still attempted to retain his influence over the king, but was forced by Grenville attempted a promise from Grenville extracted a promise from had no longer any power over the king, resigning his positions and having his influence taken from him. He still took some slight interest in politics, and was again on two occasions a representative peer of Scot-land, but he spent the greater part of the rest of his life in travelling, and died in 1792, being buried at Rothesay in the Is. of Bute. He was totally un-

overwhelming importance, of lessen-depended for its support entirely ing the authority of parliament, and upon the confidence of the king and of smashing the Whig oligarchy. His the corruption of parliament. His family life, however, was above rethey were not on the surface apparent; proach, and by a circle of intimate the internal jealousies of the cabinet friends he was greatly and justly

Bute Island, in the Firth of Clyde, separated from Argyllshire by Kyles of became Prime Minister. The king and Bute, a narrow channel less than 1 m. he desired peace with France, Pitt in wide. The is. is 5 m. distant from the Ayrshire coast, and 6 m. from Arran. It is 16 m. long and 3 to 5 m. broad. The coast is rocky, and in the interior desire for peace, the resignation of are sev. small lochs, the prin. of which are Lochs Fad, Ascog, and Quien. The soil is light and gravelly, but produces excellent crops. There is no lack of soft, red sandstone, slate, and whinstone, while grey granite is also found. The is. is celebrated for its salubrious ously attacked in the press and by climate, which makes it a favourite recartoons, his relationship with the sort of invalids. Pop. 12,162. Rothe-princess-mother was made the sub-say, a fashionable watering place, is

> Butea is a genus of leguminous plants named after John, Earl of Bute; the four species are natives of India and China. B. frondosa, the dhak, palas tree, or bastard teak, is a native of mountainous districts of Hindustan, and is noted for its great beauty. It yields lac, and a bright red astringent juice, known commercially as East Indian Kino, while the flowers

Butler, Alban (1710-73), the hagiographer, was born in Northants, and at an early age was sent to college at Douay, where he became professor successively of philosophy and di-rinity. He was sent subsequently on the English mission, and was some-time chaplain to the Duke of Norfolk. At length he became president of the college of St. Omer. The chief of his works is Lives of the Fathers, Martyrs. Grenville extracted a promise from and other Principal Saints. It cost the king that the influence of B. at him the labour of thirty years, and court should cease, and after 1765 he first appeared in five vols. in 1756-9. On account of B.'s strong ecclesiastical bias and defect of scholarshin and critical sagacity, his works are not capable of being received as authorities.

> Butler, Benjamin Franklin (1818-93), lawyer, general, and governor of 1 at Deerfield. V 1v. 5. On the 3 removed to

champion of the working classes. He served in the legislature in 1853, and in the state senate in 1859. In the war between N. and S. he was appointed major-general of the volunteers, and also commander of Virginia. In 1862 he led an expedition against New Orleans, took possession, crushed all opposition from the Confederate cause, and maintained order and peace. Later he received a command in but his operations were frustrated by the arrival of General Beauregard from Charleston. He led an expedition against Fort Fisher, Wilmington, when a futile attempt was made to breach the walls by exploding a powder boat. B. soon after returned to civil life, and was elected for Congress in 1866. In 1878-79 he was nominated for governor of Massachusetts, but was defeated. He was, however, elected in 1882. He was nominated for president in 1884, but this was not taken seriously. He died at Washington.

Butler, Charles (d. 1647), miscellaneous writer, was a native of Buckinghamshire, and was educated at Oxford. He spent most of his life at Basingstoke, first as a schoolmaster, and afterwards, for nearly fifty years, as Vicar of Laurence-Wotton, 3 m. from the town. He wrote a work on bees, 1609; a treatise on affinity as a bar to marriage, 1625; a Latin treatise on rhetoric, 1629; a work on English orthography, 1633; and The Principles

educated at Douay, and

the books which he published, and which attained the proportions of 50 vols., may be mentioned, Book of the Roman Catholic Church, 1825; Re-miniscences, 1821-27; Coke upon Lilleton's Laws Littleton's Laws

Butler, Lady lived in seclus

Ponsonby (1755-1831) at Plasne-wydd in the Vale of Llangollen for at Plasneover fifty years. They were known as 'The Maids of Llangollen,' or 'The Ladies of the Vale,' and were visited by many distinguished people. Lady Eleanor belonged to the Irish house of Ormonde, and her brother succeeded to the earldom in 1791.

Butler, Elizabeth Southerden, Lady

Switzerland. In 1877 she married the chapel of the Rolls, and was Lt.-Gen. Sir William Francis B. He rapidly advanced in the Church, being

died in 1910. In early life she spent some years in the study of art at Rome and Florence. She exhibited Missing' at the Royal Academy in 1873, and this was followed by a succession of successful pictures, dealing cession of successful pictures, dealing chiefly with military subjects. Among them were: 'The Roll Call,' 1874; '28th Regiment at Quatre Bras,' 1875; 'Balaklava,' 1876; 'Inkermann,' 1877; 'Scotland for Ever,' 1881; 'Floreat Etona,' 1882; 'Tel-el-Kebir,' 1885; 'Evicted,' 1890; 'A Cistercian Shepherd,' 1908. She pub. Letters from the Holy Land in 1903.

Butler, George, D.D. (1774-1853) headmaster of Harrow and dean of Peterborough, was born at Pimlico, London, in 1774. Educated at Cheyne Walk School, Chelsea, and Sidney Sussex College, Cambridge. Elected a fellow of the college and acted for some time as mathematical tutor. In 1805 he became master of Harrow School, retaining this position until He then retired to his living 1829. at Seyton, Northamptonshire, and was appointed dean of Peterborough in 1842. He was a great mathematician, a distinguished classical scholar, and spoke several languages fluently. His later years were years of physical suffering. He died at Peterborough. Chief works are: Extracts from the Communion Service of the Church, and

Statutes of Peterborough Cathedral.

Butler, Henry Montagu (b. 1833),
English clergyman and schoolmaster,
was born at Gayton, Northamptonshire, He studied at Trinity College, Cambridge, and from 1859-85 was v School.

of Gloucester. honorary

Lincoln's Inn, being calle ted honorary in 1791, under the te Catholic Relief Bill. He took silk in master of Trinity College, Cambridge, 1832, in which year he also died. He being vice-chancellor in 1889 and was a most prolific writer. Amongst 1890, Among his works are: Sermons to be a second of the Chand of Harron. 1890. Among his works are: Sermons preached in the Chapel of Harrow School, 1861 and 1866 (New Series) Belief in Christ, etc., (1898); University and other Sermons, 1899. Butler, James, see ORMONDE, DUKE

> Butler, Joseph (1692-1752), was born at Wantage on May 18, being the son of a linen-draper of that town. His father was a Presbyterian, and Joseph was educated with the ultimate object of his finally entering the Presbyterian ministry. He received his education at Gloucester and Tewkesbury. Whilst at the latter Tewkesbury. Whilst at the latter academy B. being dissatisfied with the principles of Presbyterianism. joined the Church of England. He entered Oriel College, Oxford, 1715. He took his degree in 1718, and was

Between the years 1726 and 1736 be lived in great seclusion, and for some seven years of that period lived in practical retirement at Stanhope. In 1733 he was made chaplain to the lord chancellor, and in 1736 prebendary of Rochester, whilst in the same year he was attached to the the same year he was attached to the service of the queen. In 1737 Queen Caroline died, and B. was appointed bishop of Bristol; in 1740, however, he was made dean of St. Paul's, in 1746 clerk to the closet of the king. In 1747 there seems to be some evi-

She was at first chiefly interested in the movement for the higher educathe movement for the higher educa- elaborate edition of Aschylus was tion of women, but afterwards published 1809-26, directed most of her energies to the reclamation of 'fallen' women. She and author, was educated at Shrewstook a prominent part in the cambury and St. John's Colleze, Campaign for the repeal of the Contagious bridge, and spent some of his early Diseases Acts (1864, 1866, 1869; re-years in New Zealand. On his return, Diseases Acts (1864, 1866, 1869; repealed 1883-6), which she held unjustly affected women, and she initiated a movement for the suppression of the 'White Slave traffic.'
Butler, Nicholas Murray (b. 1862),

American authority on education, was born at Elizabeth, New Jersey. He graduated at Columbia University, of which he became president in 1902. He was the founder and first president of the College for the Training of Teachers at New York. He founded the Educational Review, and has published various works on educa-

tional matters.

Butler, Samuel (1012-80), author of Hudibras, was a farmer's son. After being for some years page in the household of Elizabeth, Countess of Kent, he became clerk to several Puritan justices of the peace. Sir Samuel Luke, one of these justices, is

given the living of Stanhope by Talbot, him as 'strong-set, high-coloured, a Bishop of Durham, with whom he head of sorrel hair, a severe and had been on terms of great friend- sound judgment: a good fellow,' lends nad been on terms of great friend-sound judgment: a good fellow, lends ship at Oxford. He resigned the no support to the stories of his neglect preachership of the Rolls Chapel in at court and miserable end. His 1726, but it was while he was there *Hudibras* (pub. in three parts, 1663, that he preached his famous fifteen 1664, and 1668), is a satire on the Hudibras (pub. in three parts, 1663, 1664, and 1668), is a satire on the Puritans. Charles II. is said to have enjoyed the pungency of its wit, and the resistless power of its railleries. Like Pope, B. is now more quoted than read. The story is but a bare framework, yet his mastery over rhyme and epigram, and his genius for making his characters depict themselves in the most contemptible light, form a splendid embroidery. See Works, ed. by R. B. Johnson, 1893; Hudibras, ed. by A. R. Waller, 1905.

Butler, Samuel, M.A., D.D. (1774dence for the statement that he was 1839), classical scholar, was educated offered the primacy, which he deat Rugby and St. John's College, clined, but the evidence for this is not Cambridge. At college his brilliancy altogether reliable. In 1750 he ac-gained him many medals and prizes. cepted the bishopric of Durham, and In 1793 he secured the Craven Craven Taylor in 1752 he died. He was buried at scholarship with Samuel Taylor Bristol, where so much of his life had Coleridge and Keate, afterwardshead-Bristol, where so much of his life had Coleridge and Keate, afterwards headbeen spent. In 1736 had appeared his great work, The Analogy of Religion. Three years later he was senior See Works, ed. J. H. Bernard, 1900. optime in the mathematical tripos. Butler, Mrs. Josephine Elizabeth From 1798 to 1836 he was head-(1828-1906), author and social reformer, was the daughter of John Grey of Dilston. In 1852 she married of the spendard she was the strength of the histogram of the histogram of Lichfield, 1807; and She was at first chiefly interested in the movement for the histogram of Lichfield, 1836. His the movement for the histogram of Lichfield, 1836. His the movement for the histogram of Lichfield, 1836. His elaborate edition of Aschylus was

after exhibiting at the Royal Academy, he came before the public in 1872 with the romance of Erewhon (an inversion of the word 'Nowhere'), a Utopian romance describing an imaginary country where the man-ners are the reverse of ours. It is full ners are the reverse of ours. It is full of humour and irony, and the sequel to it, Ercukon Berisiled, 1901, retains these virtues to the full. Among his other works are: The Fair Haren, 1873; Life and Habil, 1877; Erolution, Old and New, 1879, where he strenuously combats Darwinism: Ez Voto, 1886; Life of Bishop Buller, his grandfather, 1896; and The Way of All Flesh, 1903, a novel published posthumously; The Note Booles of Samuel B. edited by H. F. Jones, was published (Fifield, London), 1912.

Butler (or Buttler), Walter (1600-34), Irish adventurer, was descended from

Samuel Luke, one of these justices, is Irish adventurer, was descended from supposed to be the original of Hudi- the third Earl of Ormonde. He was bras. In 1662 he was steward of present at the battle of Prague (1620), Ludlow Castle. Aubrey, who describes and accompanied James B., a kinsman, on his march to Frankfort-on-Oder (1631), at the siege of which he greatly distinguished himself. He then served under Wallenstein, and he was an accomplice in the murder of Wallenstein at Eger in 1634. For his share in this affair he was en-

nobled by the emperor.

Butler, William Archer (c. 1814-48), professor of moral philosophy in the university of Dublin, was born at Annerville near Clonmel. He was brought up as a Roman Catholic, but became a Protestant. Educated at Clonmel School and Trinity College, Dublin, he joined the College Historical Society, and was appointed first professor of moral philosophy at Dublin University. He held livings successively at Clondehorka and Raymoghy in the diocese of Raphoc. During the horrors of famine and pestilence in 1846-7 he laid aside all higher pursuits and toiled nobly among the poor as relieving officer. He paid a visit to the Lake District in 1844. where he made the acquaintance of Wordsworth, Sir W. R. Hamilton, and Archdeacon Hare. His chief works are: Letters on Romanism, Sermons Doctrinal and Practical, Lectures on the History of Ancient

Philosophy. Butler, Sir William Francis (1838-1910), born at Suirville, Tipperary. Educated at Dublin, he entered military service in 1858, and became captain in 1872, and lieutenant-colonel in 1880; served in the Ashanti expedition in 1873, in Natal, 1879, and in the Soudan campaign of 1884-5, being employed as colonel on the staff in 1885, and brigadier-general 1885-6; made a K.C.B. in 1886, colonel of the staff in Egypt, 1890-2. He was brigadier-general there until 1892. when he was promoted to the rank of major-general and stationed at Alder-He succeeded General Goodenough as commander-in-chief in S. Africa in 1898, with the local rank of lieutenant-general. He acted as high commissioner during Sir A. Milner's absence in England. Before the outbreak of war B. was recalled because he expressed views on the subject of probabilities of war which were not approved of by the home gov. He

returned home and held the post of commander of the western dist. until 1905. Promoted to lieutenant-general in 1900. He married in 1877 Miss Elizabeth Thompson, a painter of battle scenes, chief of which are: 'The Roll-Call,' Quatre Bras,' and 'The Dawn of Waterloo.' He pub, the Great Lone

Land and other works, and was the biographer of Sir George Colley. His blographer of Sir George Colley. His Autobiography was published in 1911. necessaries for the royal household at a valuation, even without consent of the owner. From this probably originates the custom of taking dues in return for protection of ports and harbours. B. ceased to be levied in 1809.

Buto, an Egyptian goddess, whose earlier name of Uto became confused with the name of the city of B., in the N.W. of the Nile delta, where she was held in special honour. She was a cobra-goddess of the marshes,' and identified by the Greeks with Leto.

Butomaceæ is a very small order of monocotyledonous plants found in marshes of tropical and temperate lands. The flowers are regular, hermaphrodite, with two whorls of three in the perianth, nine to numerous stamens, six to numerous carpels, with numerous ovules. The inflorescence is usually an umbel and the fruit is a follicle.

Butomus, Butomus umbellatus, the flowering rush, is the single species of its genus in the order Butomaceæ. It grows in Europe and Asia, and is accounted the handsomestherbaceous plant of the British flora. The flowers

are rose-coloured and the leaves are sword-shaped.

Butow, in the prov. of Pomerania, Prussia, 77 m. E. of Colberg. Pop. 5020.

Butrinto, a small fort. tn., opposite orfu. in the sandyak of Delvino, Corfu, in the sandyak of Delvino, on the coast of Albania, European on the coast of Albana, Emopean Turkey. Lake Vivari lies to its N. It has a little harbour, and is the seat of a Greek bishop. The Venetians held the town till 1797, when it was occupied by the French, who in their turn gave it up to the Turks in 1799. The ruins of Buthrotum, a Roman colony mentioned by Strabo, lie near at hand. They include a mile of old Roman wall. Pop. about 1750.

Butt, Clara (b. 1873), a contralto born at Southwick, singer, was Sussex. In 1900 she married Kennerley Rumford, baritone vocalist, with whom she has appeared on many concert platforms throughout She made her début the country. in Dec. 1892. One of the most conspicuous of her many successes was in Elgar's Sea Pictures (1899),

specially written for her.

Butt, Isaac (1813-79), leader of the Home Rule party in Ireland, was born in Donegal: educated at Italia, College, and took his degree with 1835. In 1836 he was appointed professor of political ne was appointed professor or pointed in the bar in 1838. He was a Conservative in politics, and in 1852-65 was M.P. for Youghal. He changed his political opinions, and on his election for Limerick in 1871 he became leader of Butlerage was an anct. right of the Limerick in 1871 he became leader of crown to buy up provisions and other the Home Rule party. A Home Rule adult is usually very short, and seldom survives a single season. In classification the Rhopalocera are divided into six families. The Nymphalidæ is the largest of these, and none of the species included in it are capable of walking on the front legs owing to To it belong their reduced state.



NYMPHALID BUTTERFLY a, egg-chain (magnified); b, caterpillar; c, pupa; d, imago (upper side of wing, right; under side, left). Size reduced,

seven sub-families, and these include such well-known Bs. as the Grayling, Scotch Argus, dead-leaf, fritillaries, mide has two sub-families, and in Britain is represented by the Duke of Burgundy fritillary. The Blues are small and slender Bs. comprised in in the order Guttifere, found in W. the best known members are brim- is obtained and used in soap-making. stones, orange-tips, clouded yellows, stones, orange-tips, clouded yellows, Butterwort is the name applied to sev. species of Pinguicula, a genus of flies. The difference in form and Lentibulariaceze. Three of these

dibles are rudimentary or absent, and entomologists; the family has many the proboscis is formed by the maxillæ, members in S. America, and some of and in some species is ten inches long. The legs are always weak, merely supplying supports during rest, and in some cases the front pair is rudinentary. The metamorphosis of the index it is world-wide in distribution. Insect is complete, but the life of the but unlike that family, its cases and called the complete of the property of the same of the pair is rudinentary. The metamorphosis of the index it is world-wide in distribution. many have a jerky flight, but some are extremely rapid when on the wing. In habit they resemble moths, and many of them fix at twilight. See E. Doubleday and J. O. Westwood's Genera of Diurnal Lepidoptera, 1846-52; F. O. Morris's History of British Butterflies, 1853; H. W. Bates' H. Naturalist on the Amozon, 1863; H. Scudder's Butterflies, 1881.

Butterfly Orchis, or Hahenaria bifolia, and H. chlorantha, are beautiful species of Orchidaceæ: they are found in Britain. The purple B. O. and white B. O. are H. papilionacea

and H. nivea respectively.

Butterfly Weed, or Pleurisy Root, is the Asclepias tuberosa, an herbaceous plant of the order Asclepiadacee. It is a native of the United States, and is used in cases of pulmonary affections and rheumatism.

Butterine, a food product prepared by mixing purified animal fats with genuine butter. By the Margarine Act of 1887 all such substances are to be termed Margarine (q.r.), and must be so labelled.

Buttermere, in Cumberland, originally with Crummock Water formed one lake. The lake is 11 m. in length by 1 m. in breadth. and drains N. It is 7½ m. S.W. of Keswick, and is surrounded by superb scenery.

Butternut is the name given to the fruit of the various species of Cargo-It is a large drupe containing four seeds, and comes from tropical America. The term is also applied to the Juglans cinerea, the white walnut of N. America, the seeds of which are rich in oil.

Butters (Vegetable), substances having the consistency of butter, being vegetable fatty oils which are admirals, purple emperor, and the nearly solid at ordinary temperatures. genus Vanessa. The family Eryci- Examples are: cocoa butter, butter

the Lycenide, the species of which Africa. It yields a fatty substance, are usually blue on the upper surface, which is used as tallow and as a subbut many are also copper, white, and stitute for butter. Basia butyrace, yellow. The Pieridæ is a family which aspecies of Sapotacce. Is the Indian B. stitute for butter. Bassia buturacea, aspecies of Sapotacea, is the Indian B., has several British genera, and among from the seeds of which a fatty juice

Three of colour of the sexes in Papillonidæ has plants grow in damp places in Britain. led to a good deal of confusion among and are noted for their carnivorous habits. The rhizome has a rosette of by the Duke of Buckingham, emgreenish-yellow leaves which grow close to the ground and are covered with numerous small hairs secreting a sticky fluid. Insects adhere to the leaves, and the acid secreted by the hairs decomposes the bodies and gives the plants the nitrogen they require. P. vulgaris, P. alpina, and P. lusilanica are the species which are found in Britain.

Buttevant, a market tn. in Ireland, co. Cork, 6; m. N.W. Mallow, on the G.S. and W. Railway. It is a garrison town, and has the remains of an

abbey. Pop. 2025.

Buttmann, Philip Karl (1764-1829), a Ger. philologist, born at Frankfort-on-the-Main. At the University of Göttingen he studied under Heyne. In 1789 he was appointed assistant at the Royal Library at Berlin. From 1796-1808 he was professor at the Joachimsthal Gymnasium in Berlin. department. For some years he had edited Spencr's Journal, but his fame rests on the encouragement he gave to the study of the Greek language by his Grieschische Grammatik, 1792, and his Lexilogus, 1818-25, which is a scholarly discussion of certain difficult words in Homer and Hesiod. Both these works have been translated into English, the translation of the latter having already passed through five editions the 2 pearc

Bunneriaceæ is a term which was formerly used for a group of dicotyledonous plants now included in the order Sterculiaceæ. Buttneria and Theobrama were two chief genera

with

Button, Sir Thomas (d. 1634), entered the navy in 1589, but did not rise into renown until in 1612 he was giver lition whos h for the 1 d by mself the capta lored the c st, of Huds and proved conclusively that the hoped-for passage did not exist. It was he who named the Nelson R., New Wales and Button's Bay. Deficiency in equipment caused a high mortality among the crew. Later B. was admiral of the king's ships off Ireland, and did yeoman's service in suppressing piracy. Various disputes with the Buttress (Fr. bouter, to push, from Admiralty, in which he was supported Old Fr. bouterel), a projection from a

bittered his closing years.

Buttons (Fr. bouton, from same root as Fr. bouler, to push), small pieces of bone or other material which, pushed through a loophole, serve to connect different parts of a garment. The history of B. making dates back to Elizabeth's reign. At first B. were only made for purposes of ornamentation. Bright, gaudy, and costly B. with numerous facets were worn in the last century, and similar B. have recently been made in Paris. Birmingham is the centre of the industry in abbey. Pop. 2025.
Butt-joint, a joint (often in iron- 18th century and the early part of work) in which the edges or ends of the 19th century is known as the work) in which the edges or ends of the 19th century is known as the Augustan period of B. making in Augustan period of B. making in the property of the period of B. making in the period Great Britain. The latter part of the Birmingham,' when it was the fashion to wear coats covered with gilt B. At that and the subsequent period the profits of manufacturers amounted annually to very large sums. beginning of the present century Mr.

his son canvas

Admitted in 1806 to the academy of two instead of the metal shank. The sciences, he became, five years later, mechanical manuf. of covered B. was secretary of the historico-philological first started in the United States in 1827 by Samuel Williston. B. are made of various materials. B. of vegetable ivory are largely used now. A palm tree called the 'corozo nut' rields this substance, which is softer than true ivory and easily turned and dyed. Brass B. were first made at Birmingham in 1689. Ivory B. are among the latest of all. Horn B. were made at Birmingham in 1777. Towards the middle of the 19th century Emile Bassot invented a widely-used process for making them from hoofs of cattle, softened by boiling. Pearl B. are made from pearl oyster shells. Glass B. are especially made in Bohemia, and porcelain B. were made in 1840 by an Englishman, R. Prosser.



FLYING BUTTRESS

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wall provided to give additional usually added to bring off the acid in strength to the same. In classical the form of the calcium salt. architecture there were no visible Bs.,

their places being taken by pilasters, antæ, etc. The Bs. of the early TI Romanesque style frequently pre-5 sented the form of pillar. Bs. of Early Eng. style have a considerable projection with two or three set-offs sloped at anacute angle dividing the stages and crowned triangular heads. Buturlinovka, a tn., with mills and tanneries, in the dist. of Bobrov, Russia, 85 m. S.E.

of Veronezh; pop. 23,000. Butyl Alcohol. one of the isomeric alcohols of the

general formula NORMAN BUTTRESS C.H.OH. There

are two primary, tertiary one secondary and one forms. Normal B. A., CH₃.(CH₂)₃.OH, is a colourless liquid prepared by normal bucy.
Isobutyl reducing aldehyde with sodium. alcohol. (CH2)2CH.CH2OH, disagreeably smelling liquid occurring in fusel oil. The secondary alcohol. methyl ethyl carbinol, CH, C,H, CHO boilir

hol, is a the a chloride.

Butyl Chloral, C₄H₅.Cl₅O, an oily liquid prepared by the action of chlorine on acetaldehyde. It readily unites with water to form B. C. hydrate, C.H., Cl.O.H.O., a crystalline solid used in medicine as an ancesthetic. It has similar properties to chloral hydrate, in the manufacture of which it occurs as a by-product.

Butyric Acid, CH2.CH2.CH2.COOH. a volatile fatty acid occurring in butter fat, in parsnip and other vegetable oils, and in the perspiration of animals. It is an oily colourless liquid with an unpleasant smell, solidifies at -19°C., boils at 162°3°, and has a specific gravity of '974. It is miscible with water and alcohol, and forms salts called butyrates. It may be pre-

Isobutyric Acid, (CH₃)2.CH.COOH, an isomeric form found in some vegetable oils. It has an unpleasant smell, boils at 155° C., and has a specific gravity of .969.

Butyric Ether, or Ethyl Butyrate, a liquid obtained by distilling butyric acid, alcohol, and sulphuric acid. Unlike butyric acid, it has a pleasant smell resembling that of pine-apple. It is commercially known as pineapple oil, and is much used as a flavouring agent for sweets, etc.

Butyrine, C, H, (C, H,O2), a yellowish liquid with a bitter taste which forms about 3.8 per cent. of butter fat. It is the glyceride of butyric acid.

Bützow, in Mecklenburg-Schwerin. Germany, 18 m. S.W. of Rostock, with which it is connected by rail;

pop. 5260. Buxa, or Baxa, name of a tn. and pargana (or dist.) in Jalpaiguri division of Eastern Bengal and Assam,

on borders of Bhutan. Buxar, see Baxar. Buxbaumia, aphylla, is a moss of the order Bryineæ and family Bux-baumiaceæ. It was named in honour of Buxbaum, the Ger. botanist, and is a rare plant occasionally found in

Britain. Buxina, an alkaloid occurring in the common box tree (Buxus sempervirens).

Buxton, a watering-place and mrkt. tn. in Derbyshire, 36 m. N.W. of Derby, and 163 N.W. of London by rail, and is on the L.N.W. and Midland Railways. Area 1310 ac., and pop. 10,190. It is the highest tn. in England, 1000 ft. above sea-level, is the centre of the Peak dist., and is remarkable for its very bracing climate. It has long been famous for its mineral waters, which were known to the Romans. The springs supply hot and cold water, though only a short distance apart; the hot springs have an even temperature of 82° F. The baths are the property of the Duke of Devonshire. At the Devonshire Hospital over 3000 poor gouty and rheumatic patients are treated annu-There are excellent hotels, ally. hydropathics, and the varous estab. lishments that are to be found in a favourite watering-place. In the vici-nity is Diamond Hill, so named from its abundance of quartz crystals; also Poole's Hole, a remarkable stalactite cavern.

Buxton, Jedediah (1707-72), a calculator, could work out the most elaborate problems in number, although he never mastered any arithmetical rules. By striding over the estate of Elmton, he gave its area agency the acid is formed. Chalk is accurately in acres, roods, etc., and uttered. Another time he expressed

Buxton, Sydney Charles (b. 1853). Liberal politician and author, was the son of Charles Buxton, M.P., and Emily, daughter of Sir Henry Hol-land, Bart. He was educated at Clifton and Trinity College, Cambridge. He was a member of the London School Board from 1876 to 1882, and honorary secretary of Mr. Tuke's fund from 1882 till 1884. His first attempt to enter parliament was in 1880, when he contested Boston unsuccessfully. He became M.P. for Peterborough three years later, but failed to secure re-election in 1885. He contested Croydon unsuccessfully in 1886, but later in that year became M.P. for the Tower Hamlets (Poplar division), and continued to hold the seat through successive elections. He served on the Conciliation Board at the dock strike of 1889, was a member of the Royal Commission on Education, 1886-89, and a member of the Income-tax Committee in 1904. From 1892 till 1895 he was Under-Secretary for the Colonies. From 1905 to 1910 he was postmaster-general, and in that capacity instituted the penny post to the United States, 1908; and the Canadian magazine post, 1907; and acquired the first wireless tele-graph station for the nost office, 1909. In 1910 he became President of the Board of Trade, and he took a prominent part in several of the important financial measures dealt with by Mr. Asquith's government. He was the author of the 'Fair Wages' resolution of the House of Commons: resolution requiring a clause to be inserted in all government contracts to secure better payment for workers engaged in such work. Responsible for the Copyright Act, 1911, and Un-employment Section (Part II.) of the National Insurance Act, 1912. He has published: Finance and Politics, 1883-85; Political Manual, 1886; Handbook to the Death Duties, 1893; Mr. Gladslone as Chancellor of the Exchequer, 1901: The Fiscal Ques-tion; Handbook of Political Questions, 1901. He has also written on his two favourite recreations. Fishing Shooting, 1902.

Buxton, Sir Thomas Fowell (1789-1845), philanthropist, was a brilliant student at Trinity College, Dublin, in spite of his very meagre groundings in academic work. In 1808 he entered Messrs. Truman ruman and Hanbury's So whole-hearted was his brewery.

even square inches. At a performance | devotion to business that he became of Richard III., his one amusement partner in 1811. His wife, Harriet was to count the words Garrick Gurney, was a sister of the famous Mrs. Fry. People first recognised his talent as a speaker, and his disinterested enthusiasm in his speech for the Spitalfield weavers, 1816. From 1818 to 1837 he represented Weymouth in Parliament, his sturdy opposition to bribery being responsible for the loss of his seat. Though he sacrificed many hours to the question of prison reform, and tried to carry through a scheme for bettering the condition of the African negroes, his life work was to promote emancipa-tion of slaves throughout British dominions. In this cause his activities were never relaxed, and he proved himself a worthy successor to Wilberforce as leader of the anti-slavery party, 1824.

Buxtorf, Johann (1564-1629), Ger. Heb. scholar, became professor of Heb. at Basel in 1591. In his devotion to rabbinical literature he has hardly been surpassed. His reputa-tion depends chiefly on his Lexicon Chalduicum, Talmudicum, et Rabbini-cum and his Concordantiæ Bibliorum Hebraicorum, both of which were pub-by his son, but his greatest work, perhaps, was his folio Hebrew Bible, to which were added the Aramaic Paraphrases or Targums, and the Commentaries of Ben Ezra, Rashi, and other Rabbins, 1618. A fatal attack of the plague cut him off in the

midst of his studies.

Buxtorf, Johann (1599-1664), son of the former, also occupied the chair for Heb. at Basel. Much of his public life was absorbed in an embittered and learned argument with a Frenchman, Capellus. B. maintained that the Massoretic text alone was the 'Hebrew Verity,' and that the vowel points and accents, as well as the letters, were possessed of divine authority, and were at least as old as the days of Ezra. Capellus proved fairly conclusively that the vowels, etc., go back only to the 5th century A.D.

Buxus, a genus of dicotyledonous plants of the order Buxacee, of which the common name is box (q.v.).

Buys-Ballot, Christoph (1817-90). meteorologist, born at Kloetigen in Zecland: studied at Utrecht, where he became professor of mathematics, 1847, and of experimental physics, 1870, and in 1854 director of the Royal Meteorological Institute. He invented the acraklinoscope and a system of weather signals which were a great aid to international uniformity in meteorological observations. observations have been formulated in a general law of storms which may be put thus for the northern hemisphere, Stand with your back to the wind

the low pressure area will be on your of Vesterbotten, on W. shore of Gulf left hand. For the southern hemist of Bothnia. Sphere the reverse will obtain. This law, the Byker, a parish of Northumberis known as Buys-Ballot's Law. His land, England, situated in the born works include: Changements périod of Newcastle, and about a mile to iques de la Température, Utrecht, the E of that the Pop. 32,500. 1847; and in English, Suggestions on By-law, or Bye-law, is a private a Uniform Sustement Utrecht in English preparation programment to make the control of the E of that the Pop. 32,500. Observations, 1872-73.

situated on the Bosphorus, about 10 m. from Constantinople. It is a favour-ite summer resort of many of the

grain, timber, and petroleum; pop. 21,600.

Buzuluk, tn. with tanneries, copper foundries, etc., in Russia, 110 m. S.E. of Samara, near junction of R. Samara and R. Buzulnk; pop. 19,700.

Buzzard is the name given to several genera of birds-of-prey of the falcon! family, Falconidæ, to which belong The species usually also the kites. live on such small animals as mice. but they are known to carry off domestic fowls. They are cosmo-politan but for Australia. B. vulgaris,

Buzzard's Bay is a large inlet of the Atlantic Ocean on the S.E. coast of Massachusetts, United States. New Bedford, the cap. of Bristol co., stands on the estuary at the mouth of

founder of Bytown, now Ottawa. Hewas a lieutenant-colonel in the Royal Engineers, and served in the Peninsular War. He constructed the Rideau Canal, 1827-32, in Canada, joining the Great Lakes with the St. Lawparliament.

Byblos, or Byblus, an ancient city of Phienicia, on the Mediterranean, between Berytus and Tripolis, near the foot of Lebanon. Said to be the bp. of Adonis or Thammuz, and the headquarters of his worship. Moderu Jebail.

Bygdea, a tn. of Sweden in the prov.

a Uniform System of Meteorological regulation generally made by councils, corporations, and companies for the Buyukdereh, a village beautifully control of order and fair government within some juri-diction. Bs. are binding, unless contrary to the laws of the land, or to the act of any corambassadors of the Christian powers poration; or unless they are obviously Buzançais, a tn. in the dept. of unreasonable. The power of Bs. extender, France, on the R. Indre, 13 m. N.W. of Châteauroux. There are regulation of amusements. Fines and iron-works in its vicinity. Pop. 4986. forfeitures may also be enforced by Buzeu, cap. of prov. of B. in Roumania, 42 m. N.E. of Ployeshti: the powered by their charters to make seat of a bishop, and a market for Bs. which are binding on their remin timber and netroleum, non markets. Every corporation can members. naturally repeal or alter any B. made by itself. By various statutes powers are given to borough, county, and district councils to make Bs. for the government of the said districts. Such Bs. are not enforced until after the expiration of forty days, or till a copy has been sent to a secretary of state. who has power to disallow or alter the Bs. Bs. must generally be submitted to some confirming authority for sanction and approval. For example, the Board of Trade regulates the common B., and Archibuteo traffic on railways and tramways, the lapopus, the rough-legged B., are the Education Department makes Bs. only natives of Britain. B. lineatus, compelling attendance at school, the the red-shouldered hawk, and B. Local Government Board regulate-, borealis, red-tailed hawk, occur in N. by means of Bs., the use of public America. Pernis apirorus, the honey baths and washhouses, lodging houses, B., belongs to a different sub-family and slaughter-houses. Bs. may also B., belongs to a different sub-tampy and stangered against and from Buten, while Cathartes aura, the be made by societies, guilds, and turbov it is an American vulture, companies.

Bylina (' The Past '), name given to epic songs of Russian popular poetry. Their heross ('bogatyri,' or paladins) are mythical or historical stands on the estuary at the mouth of 'persons, or types of the forces of Acushnet R., which falls, with other nature. The mythical, or 'elder palasmall streams, into this bay. Between dins, have but a small part a-signed B. B. and Plymouth is the largest to them, the bulk dealing with the stretch of untained soil in the state. ' younger paladins' (hi-torical figures By, John (1781-1836), engineer and such as St. Vladimir Boris Godunov, under of Bytown, now Ottawa. He Ivan the Terrible. These ballads as a lieutenant-colonel in the Royal have been collected from bards in nameers, and served in the Penin-Northern Russia and Siberja, especially in the governments of Olonetz. Arkhangelsk, and Tomsk. Like all poems duting from very early times rence. The cost of over a million came, they were first handed down orally. in for much criticism in the British Richard James, chaplain of English embassy in Russia (c. 1619), collected some of them, but interest was keenly aroused only in the 19th century. The poems are divided into several cycles; cycle of Kiev (chief figures Vladimir, Ilya Muromets); cycles of Novgorod, Moscow, Peter the Great, and others. Chief collections: Ribnikov. 1860-71: Kirejeo-ki, 1868-74

Sobolenskii, 1895-1900; Avenarius's! Anthology, 1885. Consult Raiston's Songs of the Russian People, 1872; Russtan Folk-Tales, 1873; Rambaud's La Russie épique, 1876; Wollner's Untersuchungen über die Volksepik der Grossrussen, 1879; Wesselofsky, Beiträge zur Erklärung des russischen Heldenepos (Archiv für slavische Philologie, vol. iii., 1879); Epic Songs

of Russia, trans. by Hapgood, 1886. Byng, George, Viscount Torrington (1663-1733), British admiral, born at Wrotham, Kent; went to sea at fifteen; was made captain by the Prince of Orange in 1688, and in 1703 became rear-admiral of the Red. In 1704 he served under Sir Cloudesley Shovel, and distinguished himself at Gibraltar, and was knighted by Queen Anne for gallantry at Malaga. He was elected to parliament in 1708, and represented Plymouth till 1721. In 1708 he was made admiral of the Blue and defeated the French fleet of the Pretender; in 1715 served against the French in the Downs and was made a baronet; in 1718 dispersed the Spanish fleet off Messina, and was appointed treasurer of the navy and rear-admiral of Great Britain. In 1721 he became a privy councillor, Baron Southhill, and Viscount Torrington; in 1725 a Knight of the Bath, and in 1727 First Lord of the Admiralty.

Byng, John (1704-57), the son of Lord Torrington, and a British adinfluence to further the interests of The result was that B. rehis son. rapid and not altogether ceived He entered the merited promotion. navy in 1718, became a captain in 1727, a rear-admiral in 1745, a viceadmiral in 1747, and an admiral in 1755. He was never given dangerous employment, but was always chosen for the more comfortable work in the navy. In 1756 he sailed from Gibraltar to relieve a garrison that was besieged in St. Philip in Minorca. When he sailed he was a man with a grievance, and he notified the ministry that he would not attempt to relieve the garrison in the face of any difficulties. He fought an ineffective naval battle with the French, hung round Minorea for a few days, and then returned without having done anything. The fort surrendered, and B. was brought home, tried by court-martial, and executed for not having done his utmost. As a leading Frenchman of the period remarked, he was shot

1743). Dutch jurist. b. at

Zealand; studied at the Francker, and took a do

pour encourager les autres.

in 1694, settling down to an advocate's different seasons. The case of the big

practice at the Hague. In 1703 he became a member of the Supreme Council of Holland, Zealand, and W. Friesland, and in 1742 became its president. Author of numerous works In 1703 he on international law.

By-products, goods of commercial value which occur in the manufacture or preparation for the market of some other commodity which is looked upon as the main product. B. have always been considered in the economic adjustment of agricultural and pastoral enterprises, but it is only within recent years that their great importance in various forms of manufactures has been recognised. B. not only mean additional profit in the ordinary course of a particular business, but they also represent a means of insurance, or of levelling up the various risks; for it often happens that the markets supplied by the different products are independent, so that the dangers of a movement disastrously affecting the value of one product may be counteracted or at any rate mitigated by a profitable treatment of another. It may thus happen that what was considered the main product at the beginning of an enterprise may become secondary and a former by-product may become the principal article dealt with. Where B. have gained enhanced importance in this way it is more convenient to speak of all the marketable miral. His father, who was most in- goods as joint products. At the fluential in naval matters, used his present time, when chemical science enables us to treat profitably what were formerly called waste-products. and when businesses design to keep many stages in the production of an article under one control, the treatment of B. makes the question of estimating costs and values an im-The matter is fairly portant one. simple when the various products occur in a fixed and invariable ratio of quantity and quality, because the total income will be the sum of the amounts realised by each of the joint products, and an increased outlay should bring profits in roughly the same proportion. It occurs much more often, however, that certain products may be developed at the expense of others, either as regards quantity or quality. A farmer, for instance, may rear sheep principally for meat or principally for wool, but also with a view to profiting by both. His methods will vary according as to which he regards as the main product, and it may be a matter of somewhat nice adjustment to arrive at the more Bynkershoek, Cornelius van (1673- profitable of the two courses. ild no doubt decide from and might even experidifferent breeds and in

manufacturing concern is often much more complex. Where the B. are numerous and valuable, it may be that the correct adjustment of the proportions of

various produc ference betwee

That is to say, the particular advantage which enables a business to operate as a profit-making concern, and to keep its place among its competitors may be the development of a B. in a particular way. times the retention or disposal of a waste product is more expensive than its conversion into something marketable, or may constitute such a nuisance that the legislature insists upon a new method of disposal. An instance of the latter is supplied in the Leblanc process of alkali manufacture: the hydrochloric acid generated was formerly allowed to escape into the atmosphere with some danger to public health, and the manufacturers were consequently compelled to dissolve it in water in the acid towers. An interesting feature of that compulsory change is that the old Le-blanc process can now only compete with more modern processes by virtue of the profit gained by the sale of what was formerly a noxious wasteproduct.

Some important by-products. - In the alkali process already referred to, another former waste-product, 'alkali waste, which is composed mainly of calcium sulphide, is now treated for the recovery of the sulphur. In most chemical works an effort is made to utilise or render marketable all the products of the chemical action; the pyrites burnt in sulphuric acid manufacture is treated to recover the copper and iron. Soap works produce glycerine, which is often purified for sale by the scap-manufacturers themselves. Brewing yields an excess of yeast which is sold to bakers and others, and the spent malt is prepared as a cattle food. In the great canning industries of the United States all the animal products, hide, hair, bones, horns, hoofs, are dealt with as near the factory as possible. Molasses and syrup are B. of the sugar industry. The oil-cake produced from the pressed seeds in linseed oil factories is use

food. In gas-works the r of all illustrations of the

B. occurs. Not only is the coke sold for fuel, but the liquid or coal tar produced during the dry distillation of coal yields a variety of useful products. When subjected to fractional distillation, benzene derivatives are separated which comprise many different dyes, drugs used medicinally, flavouring agents, and volatile benzols

which are used as solvents, and may derive still greater importance as possible substitutes for petroleum spirit.

Byrd (or Bird), William (c. 1538-1623). English musical composer. He was 'bred up to music 'under Tallis. Appointed organist of Lincoln in In 1569 he was appointed gentleman Queen Elizabeth's of Chapel Royal and shared with Tallis the honorary post of organist of Chapel Royal. His first work was a collection of motets, written jointly with Tallis in 1575. His compositions of music for the virginals were published in Parthenia, and many of his madrigals are still in existence. Most of his works are sacred, and to him is attributed the fine composition Non nobis Domine. He also wrote three masses.

Byrgius, Justus (1552-1633), inventor of various astronomical instruments, was born at Lichensteir, Canton St. Gall, Switzerland. He served under Wilhelm IV. of Hesse and Emperor Rudolf II. His first work was a celestial globe on which the stars were placed according to his own observations. He also invented a system of logarithms and some proportional compasses, but reliance

cannot be placed on these.

Byrlaw is the name given to a sort of popular jurisprudence formerly in use in Scotland, in villages, and among husbandmen. As the B. was formed by common consent of the villagers or neighbours, so it was administered by judges chosen from among and by themselves. These judges were called 'B. men,' a phrase still in use in parts of Scotland to denote a judge or

umpire.

Byrne, Julia Clara (1819-94), an author, and a daughter of Hans Busk, by whom she was educated. She became an excellent French and classical scholar. In 1842 she married William Pitt B., who was the proprietor of the Morning Post. She wrote books which called attention to the Roman Catholic churches and convents, but later on she became a Catholic convert. Her Undercurrents Overlooked, published in 1860, was against the workhouse abuses, and helped to reform many evils. She wrote Realities of Life, Feudal Castles of

Gossip of the Century, etc. in London.

Byrnie, ringed shirt of mail (A.-S. byrne), reaching first to the knees, later only to the hips, with wide, short sleeves. Worn by ancient Scandinavian warriors.

Byrom, John (1691-1763), poet and stenographer, Norn at Manchester. After studying at the Merchant Taylors' School he entered Trinity

College, Cambridge. B.A., and was chosen fellow in 1714. About the same time he contributed several papers to the Speciator, among them his first poem, a pastoral, en-titled Colin and Phæbe. He took his M.A. and resigned his college preferment in 1716. He went to Montpellier and there began a study of medicine. Soon after his return he married his cousin, Elizabeth Byrom, and under pressure of necessity began to teach an improved system of shorthand in Manchester and afterwards in London. He came into possession of the family estate at Kersall, gave up teaching, and employed his time in versing on such topics of the day as interested him. He was a friend of John Wesley. His remarkable Diary and Remains were published in 1854-7 by the

Chetham Society.

Byron, George Gordon, sixth Baron (1788-1821), the son of Captain John B., grandson of Admiral B., and great-nephew of the fifth Lord B., who was usually designated the 'wicked lord.' The future poet was descended from a race who had for generations past been noted for the looseness of their living and their lack of morals. Especially were these traits emphasised in the character of the father of the poet. B. was the son of the second experience of the son of the second marriage of Captain B., his mother being Catherine Gordon, of Gight in Aberdeenshire, an heiress whose fortune her husband squandered. George Gordon B., so called after his maternal grandfather, was born in Holles Street, London, on Jan. 22, 1788. His carly life was passed in the town of Aberdeen, where he also received the first part of his educareceived the first part of his educa-tion, and where he imbibed his love for the grandeur of mt. scenery, and also his knowledge of the Scriptures, a knowledge which he tells us he re-ceived at the hands of his nurse, Mag Gray, to whom he was devotedly attached. The future poet, who was born with a malformation of his feet that rendered walking distinctly and that rendered walking distinctly arduous, could not roam about the country as he would have wished, but still seems to have spent a good deal of his time in the open. He was sent for several seasons to the neighbourhood of Ballater. In May 1798 his greatuncle died, and B. succeeded to the title uncledied, and B. succeeded to the the and the estates. He and his mother immediately came S. from Aberdeen and took up their residence at Newstead. From this place B. was sent to a preparatory school at Dulwich, and later, in April 1801, he entered Harrow. There less tayed for four years, his greatest contemporary being Si his greatest contemporary being Sir Robert Peel; his school work showed

He graduated was his declamation. His friendships fellow in 1714. at school, he tells us, were passions, he contributed and altogether he was a very queer kind of boy. He was known throughout the school as the ringleader of any possible mischief, and yet he was at other times serious and thoughtful beyond his years. His lameness pre-vented him giving full vent to his passion for active games, yet he made a reputation as a swimmer, and he also played cricket. During his school days he had his first 'grande passion,' the object of it being Mary Chaworth, a distant relative, and his senior in age. His first love, he tells us, was an abiding attachment on his part, and certainly a number of his early poems have his object of adoration as their theme, whilst the subject often occurs in his later poems. In Oct. 1805 he entered Trinity College, Cambridge, but his residence there is simply one long record of high living, but he formed friendships and attachments there which were worthy of his future greatness. During the year 1806 ap-peared the first of his juvenile poems. Hours of Idleness appeared in 1807, whilst poems original and trans. appeared in 1808. The adverse criticism which the Edinburgh Review gave to his Hours of Idleness caused the appearance in March 1809 of English Bards and Scotch Reviewers, which satirised the editor (Jeffreys) and the patron (Lord Holland) of the Edinburgh Review. Coming of age in 1809, he immediately decided to fulfil the he immediately decided to fulfil the project which he had long had in mind of taking a prolonged tour in the East. He had already taken possession of his inheritance, and had also in the March of the year of his coming of age taken his seat in the House of Lords. Now, together with Hobhouse, his closest friend, he set out for a prolonged tour. This tour lasted for about two years. He left England in July 1809, and returned in July 1811. Childe Harold's Pilgrimage describes more or less accurately age describes more or less accurately the events of the first year of his travels. He visited Spain and Portugal, from thence he proceeded via Malta to tour Albania and Greece. In the next year he visited Asia Minor and later Constantinople. The second year of travel is not so well known as the first, but during it the first two cantos of the Childe Harold were written, as were also the Hints from Horace and the Curse of Minerva. On his return to England in July 1811, these poems

no signs of brilliance and his reading death of his friend Matthews, to was desultory, but his strongest point whose memory he wrote the poem

ed. of Childe Harold in 1812. The publication of his new poems on his return to England, and his general prominence, for on his return he took an active part in political work in the House of Lords, made him the lion of the town. He could go everywhere, he was received rapturously wherever he went, his fame sprang into existence apparently in a single night. He was known both as a rising statesman and as a famous poet. His output of poetry still continued to be great; in the year 1813 he pub. The Giaour, The Bride of Abydos, and wrote The ranks of poets, and increased an already great reputation. In 1813 he again met his half-sister, Mrs. Leigh. and if the stories which were currently believed are true, then the new influence was not altogether for good; it is in any case well known that he had always a greater affection for his half-sister than for any living creature. He was now at the height of his reputation, he was the lion of society. and he had permanently estab. his reputation as a poet. He still continued to write, and in 1814 appeared Napoleon, and the sequel to The Corsar, Lana (Aug. 1814). In the same year he engaged himself to Anne Isabella Milbanke, the heiress to a peerage in her own right, and his marriage to her took place. riage to her took place in the Jan. of the following year. Husband and wife finally settled down in Piccadilly Terrace, London. From his correspondence, the early days of his marriage seem to have been spent quite happily, but there is no doubt but that his conduct was often eccentric even to the verge of madness. He wrote but little poetry.

Hebrew Melodies appeared in April 1815. Almost immediately after the birth of their child. Lady B. fled from her husband's house and demanded the protection of her father, and the couple separated. The exact reason of ince-tuous intercourse with Mrs. Leigh, whilst Byron, the Last Phase, 1909, by Mr. Robert Edgecombe, de-fended the poet on that charge. The separation was the talk of London for a considerable time, and B. came rapidly down from his high position. No longer was he the most popular, but the most unpopular man in He fled from social ostracism. and immediately the articles of separation were signed he started on a European tour. He spent the early

Thyrza, which was pub. with a second | part of his tour with Shelley, and his poetry published at this time shows obviously the influence of Wordsworth, which had affected him through Shelley. The poems written at this time were, the third canto of Childe Harold, The Prisoner of Chillon, The Dream, and Manfred. From 1816-19, B., who was accompanied by Hobhouse, lived near Venice. His life at Venice was one long deliberate attempt to forget the past in an orgy of profligacy, but during the whole of the time his active mind was at work, and he was continually busy with his poetry. The fourth canto of Childe Corsair, which was pub. at the be-ginning of the next year. The poems and pub. in 1818, and in the Sept. of raised him to a still higher level in the the same year he started Lon Juan. the same year he started Don Juan. The process of his composition and of the publication was slow. Cantos i. and ii. appeared in 1819, iii., iv., and v. in 1821, and cantos vi.-xiv. in the years 1823-4. Don Juan was intended to be the great poem with a plan of B. which was to set forth the ideas, morals, and principles of his school of poesy. In 1819 also had appeared Mazeppa and an ode on Venice. In 1819 B. met an It. countess, Teresa 1819 B. met an R. countess, Teresa Guiccioli, who for the next four years remained B.'s mistress, and was rewarded with his fidelity and constancy. He was politically the friend of freedom, the champion of liberty on the Continent, and on the Continent he earned both influence and power. In 1819 B. left Venice and want to Revenue. went to Rayenna. Here in 1820 appeared Sardanapalus and The Two Foscari, whilst he was at work on Marino Faliero, Doge of Venice, which was pub. in 1821. His poem Cain was pub. in that year, and in 1822 appeared the Vision of Judgment. In the following year appeared Heaven and Earth, a Mystery, and the same year was pub. The Island, or Christian and his Comrades, a poem sugasted by the mutiny of the Bounty. In 1823, hearing that he was elected a member of the Gk. Committee, he hastened to the help of Greece and of Grecian independence with money, advice, and finally his for the separation will probably never presence. Arriving at Missolonghi in be known. The work Aslarte, pub. Jan. 1824, he was accorded the wel-in 1905, attempted to prove the charge come of a king, and he took an active part in the councils of the Gk. He, however, does not seem to have realised that his health was breaking down, but by the beginning of April it was obvious to all that his days were numbered, and on the 19th of that month he died, in his 36th year. His poetry has been accurately described as the poetry of glory and passion. His love of liberty characterised his poems also, and certainly in the desire to see the fettered nations of Europe free he was in the forefront

of his times. Works, edited by G. E. | developed in the Eastern empire after Prothero and E. H. Coleridge, 13 vols., 1893-1905; Poetical Works. E. H. Coleridge, 1905; Lives and Memoirs by Thomas Moore, 1830.

Byron, Henry James (1834-84). English dramatist, was born at Man-He entered the Middle Temple in 1858. He was the first editor of Fun, and for many years was a popular writer of burlesques, comedies, etc. He leased several theatres. and appeared on the stage of them himself sometimes. For instance, in 1869 he appeared in his own drama entitled Not such a Lool as he looks. His best known and most popular work is Our Boys, which appeared in His other works, which were numerous, include: An American Lady, 1874; Old Sailors, 1876; A Fool and His Money, 1880; Cyril's Success, 1868, his best piece from a dramatic point of view; War to the Death, 1866; and £100,000 Sterling, 1867.

Byron, John (1723-86), an English vice-admiral. As a midshipman be was shiputecked on the W coast of Patagonia, and was a prisoner for three years, returning to England in 1745. Having distinguished himself in the wars against France, he was put in command of an expedition of discovery to the southern seas. In the course of this voyage he explored the coasts of l'atagonia, the l'alkland Is., and the Strait of Magellan, discovered several new lands, and sailed round the world. He was made a vice-admiral in 1779 in the course of the war with America. His Voyage round the World in the Years 1738-48, 1766, was trans. into French in 1769. He died at London.

Byström, Johan Niklas (1783-1848). Swedish sculptor, born at Philipstud. He went to Stockholm, studied for three years under Sergel, and visited Rome, 1810. His 'Reclining Bre-chante' (half life-size), sent home from there, wou him recognition as one of the foremost Swedish sculptors. In 1816, on returning home, he brought with him a portrait statue of Bernadotte as 'Mars.' He was professor of sculpture at the academy. but then returned to Italy. His best works are his female figures, ' Hebe,' Pandora.' Juno suckling Hercules.' "Girl entering the Bath." Ilis huge statues of Swedish kings (Gustavus Adolphus, Charles X., XI., XII.) won great admiration. B. also did the altar-decorations in Linköping Cathedral, and 'Linneus' at Upsala.

Ottawa, Canada, under which it was founded in 1829. It became Ottawa on its incorporation in 1834.

the settlement of Constantine at Byzantium. It continued with full vigour until the capture of Constantinople by the Turks in 1453, and its influence on Mohammedan architecture in the East has since I cen very great. The style is of great interest as showing the Greek spirit working on Asiatic lines. At the founding of Constantinople in the 4th century, Roman art was in its decadence. Already the signs of breaking up are visible. I ut even in the West there are signs of the development of a new style, as in the palace of Diocletian at Spalato. At the new capital, a field was provided for the exercise of the arts, and the union of two different schools produced a new architecture. The plan remained either round or basilican in form, but the arch replaced the line of the architrave, and the dome was adopted, this last becoming the leading constructive feature. Domes were now placed over square apartments, whereas in the old Roman style they had only been placed over circular apartments. The square was brought to the circle by pendentives ' which brought the four corners of the square up to form a circular base for the dome. Smaller domes are frequently grouped round a large central dome which rises from four great piers at the corners of a square. In the church of St. Sophia at Constantinople, this central square is 107 ft. long, and the length of the church is increased by the addition of semi-domes at each end. Round the lower part of the dome a row of windows is placed. The classical columns were also developed, no less than seven kinds of capital being evolved: the B. Ionic, B. Corinthian, impost, melon, bowl, bird, and basket, and wind-blown acanthus. Four of these types are found in St. Sophia. A great feature of B. A. is the internal ornament. After construction, the walls were sheeted internally with marble, the vaults being covered with coloured mosaics on a golden background. Glass, rendered opaque with oxide of tin, was generally used for this purpose. The golden period of B. A. was reached in the reign of Justhian (A.D. 527-565), when the churches of St. Sophia, St. Serrius, and St. Bacchus, and the Holy Apostles were erected. B. A. was carried West by the mediaval merchants, and the style is found in the churches of St. Mark at Venice, St. Vitale at Ravenna, St. Front at Périg-The Roman Catholic neux, etc. Cathedral at Westminster is a modern building erected in this style.

Byzantine Empire. This empire is

Byzantine Architecture, the style often distinguished by various other

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names, such as Greek Empire, Laser, and carry out his policy. But Theo-Empire, Eastern Empire, or East doric died, to all intents and purposes, Empire, Eastern Empire, or East Roman Empire, and may be said to have sprung into existence with the founding of the city of Constantinople by the great Constantine. It is necessary, however, to emphasise and to keep in mind always the fact that the B. E. was essentially Roman, and carried on the ideas and ideals of the Roman Empire for a 1000 years after the empire in the W. had perished. The adoption of Christianity by Constantine and the founding of the great city of Constantinople made the B. E. essentially Christian and Roman; it gave the new ideals of the empire a permanent abode, and for centuries, even when the B. E. seemed at its weakest, it formed the bulwark of Christian resistance to the attacks of paganism. The division of the Roman Empire during the 4th and 5th centuries did not add to its strength, and during this period we see the two divisions brought frequently into hostile relations one with another. Both suffered from the attacks of barbarians, and often it seemed that both divisions would succumb to the onslaughts of the vigorous races which at this time were threatening

that it was unnecessary to have two rulers of the empire, and that in future Italy would look to the emperor at Constantinople as its head. Perforce Zeno had to be content. During the period which had just passed, and in the years which immediately followed, the Western Empire had been broken Britain was abandoned, Spain was in the hands of the Visigoths, Gaul was being conquered by the Franks, Northern Africa was in the hands of the Vandals, Rome itself was ruled by the authority of a barbaric but vigorous German soldier. In the East affairs had not assumed a very much lighter hue, the Balkan penin-sula was inhabited by Slavonic tribes, was essentially independ

without heirs, and the kingdom fell swiftly before the attacks of the Eastern Empire and the Lombards. The emperors at Constantinople were The emperors at Constantinopie were once again able to assert their sway over Italy, and indeed to actually rule part of it. Zeno had been succeeded in 491 by Anastasius, and he was in turn followed by the founder of the Justinian dynacty in 518. Justinian I. succeeded in 527 and ruled ontil 555. He had to the full the until 565. He had to the full the ideas and ideals of the great Roman Empire. He aspired to restore some of her original boundaries, to make her great in war and peace, in art and commerce, in extent and religion. On every side during his reign we see considerable progress. The kingdom of the Vandals, weakened by the ex-cesses of a barbaric race new to civilication, fell before the vigorous onslaught of the Roman general, Belisarius, the resistance of the Ostrogoths was overcome, and a large part of Italy restored by the feats of Belisarius and Narses, part of Spain was reconquered, and on the whole it appeared that the greatness of the Roman Empire would be restored. In the empire. The last emperor of the the realm of law Justinian was W., the usurper, Romulus Augustulus, equally famous, and his Code is in to perpetuate his name. is reign the faction fights and Greens came to a waged fiercer than they ly done. The great work of the rebuilding of the empire commenced by Justinian was undone by his successors, and in fairness it must be owned that the weakness of the empire immediately after the death of Justinian is due to a great extent to the policy of that emperor. schemes were magnificent, his ideals mostly good, but the empire could not bear the expense of continual war

and conquest without overstraining itself The period which falls between the death of Justinian (565) and the succession of Heraelius (610) is the darkest of all periods in the history of the empire. During that time the Lombards conquered part of Italy, continual war took place with the the Ostrogoths threatened the capital Avars, war was almost continuous itself, but the danger passed. The with Persia, and the gates of empire Ostrogoths migrated under their were about to be threatened by a great leader Theodoric to Italy, the worse foe than the Persians—the fields of Italy were their share of the Saracens. The anarchy of Phocas was spoil the German kingdom was a contact by the contact of the Saracens. spoil, the German kingdom was re- ended by the usurpation of the imspoil, the German kingdom was restended by the usual placed by the rule of Theodoric and perial purple by Heraclius. After an his Ostrogoths. Theodor cominally the subject of the drove and finally de-

his utmost to his guidance Italy flourished, and it restore the former greatness of the would probably have been better for empire, but the Asiatic provinces Italy had a strong line of Ostrogothic were weak, a weakness due to the kings been able to follow Theodoric constant internal quarrels, and the

Asiatic provinces slowly but surely began to fall into the hands of the Saracens. The strain of government, the sense of inability to cope with all his difficulties, broke Heraclius. and then followed a period of almost

knees and extracted tribute. Syria had fallen long before. Egypt was conquered, Northern Africa fell into the hands of the all-conquering Saracen. The power of Islam seemed to be all-conquering; the struggle of Cross and Crescent seemed to be on the verge of being settled in favour of the Crescent, but on two occasions, when the danger seemed the greatest, the empire was saved by her capital. Twice was the capital besieged by the Mohammedans, and twice were the attacks beaten off; on both occasions Greek fire helped largely in the saving of the city. It is probably that the safety of Constantinople meant also the safety of Europe. The Heraclian dynasty came to an end in blood and anarchy, and the Syrian, Leo III., became emperor (Leo the Isaurian). It is necessary to point out here that by this time the B. E. had become essentially Greek. The institutions essentially Greek. The institutions were still Roman, but the prevailing spirit was Greek, and almost from the time of the end of the reign of Justinian we can say that the term Greek empire is better suited to describe the empire than any other term. With the beginning of the Isaurian dynasty we see the commencement of hetter times for the empire. The iconoclastic policy of the emperor, however, has been the cause of the overshadowing of his greatness. Some of his policy was undoubtedly revolutionary, but most of it was of great benefit to the empire, and the emperor himself was alone capable of creating order out the chaos into which the empire had been allowed to fall. The army and the finances were reorganised, and the Saracens were repulsed. But the exarchate of Ravenna was lost, and some more provinces fell into the hands of the Saracens, but on the whole the rule of Leo was good. of Leo was good. Unfortunately the controversy which for one hundred years was to shake the empire began.
This was the question of image worship. The history of the period of Isaurian rule is the history of constant struggle with Bulgar, Saracen, and Russian, and also of continual re-ligious dispute. The first of the Isaurian emperors were capable men. who kept up the ideals and the boundaries of the empire. Under

of Leo III., the power passed from the hands of the emperor to the hands of his mother Irene. She caused her son to be blinded and usurped the power She died in 802, after she had vainly attempted to negotiate a marriage with Charles the Great, who by his restoration of the Western Empire in 800 had finally and irrevocably separated the two empires. The war with the Bulgars and with the Saracens continued. Constantinople was again besieged in 815, and Crete and Sicily passed into the hands of the Saracens. Under Theodora, the widow of Theophilus, the iconoclastic controversy was brought to an end by the council of Nicæa in 842; image worship was recognised and restored. In 867 the Isaurian dynasty finally came to an end, and Basil I., the Macedonian, founded the Macedonian dynasty, which lasted until almost the end of the 11th century. During this period the Bulgars were finally conquered by the Greeks, and from the beginning of the 11th century until well on into the 12th the Bulgarians were dependent upon the Eastern Empire. rule of the Macedonian emperors was noted for its vigour and ability, and during this period the Greeks more than held their own with Saracen, Bulgar, and Russian. At the beginning of the 11th century (1028) the power of the empire passed into the hands of the Empress Zoe, the wife of Romanus III., who caused her husband to be assassinated, and raised in band to be assassinated, and raised in rapid succession to the imperial throne Michael IV., Michael V., and Constantine IX. In 1054 Theodora, the sister of Zoe, was made empress, and on her death, Michael VI., who was in turn deposed by Isaac I. (Commenus). New enemies now appeared however. The Italian possessions of the awaying wore being attacked by the empire were being attacked by the all-conquering Normans, whilst on her eastern frontiers a more formidable enemy than the Saracen appeared. The Saracens had been driven out in turn by a fierce, warlike tribe from the interior of Asia—the Seljukian Turk. The destined conquerors of the Eastern Empire had at last reached the frontiers. appearance almost at the same time of the Normans and the Seljukian Turks bode ill for the empire. emperor appealed to Europe for help against the Seljukian Turk, and his answer was to him at least unex-pected and unwelcome—the first crusade. Diplomacy and care, however, led the crusaders past the treasures of Byzantium to the object of their journey. Conquests made in Asia Minor were restored to the emperor, but the foundation of the Latin king-Constantine VI., the great grandson dom of Jerusalem was a smashing

blow to the empire of the East. The emperors saw full well that a Latin kingdom in the East meant that the chief routes to that kingdom would lie in their territory or through their seas, and that it would be necessary now to protect the empire from the W. as well as the E. The hostility thus engendered between the E. and the W. was made much worse by the continual quarrel between the Roman and the Orthodox churches. papacy simed at unity of empire and church—by peaceful means if possible, but if not by any or all means. The emperors themselves began to revive the old ideals of a universal empire, which they hoped to establish by means of the hostility of the panecy to the empire (western). The policy of the Normans was undis-guisedly that of the overthrow of the Eastern Empire. The western policy of the Emperor Manuel Comnenus was very unpopular in the Eastern Empire, and he was overthrown. The empire was not strong, taxation and oppression had permanently weakened it, the Bulgars were strong enough to reassert their independence, and with the beginning of the 13th century came the overthrow of the empire. Isaac Angelus and his son, who had been driven from Constantinople, came westward and joined the forces who were preparing for the fourth crusade. They persuaded the leaders, in spite of the opposition of the papacy, to turn aside to Constantinople and to restore them to the throne of the empire. The Greek Church and the Roman Church were to be reconciled, and the Crusaders were to receive substantial aid. Isaac Angelus was restored, and the Crusaders waited outside the city for their reward. But the restoration had been unpopular, especially had the means employed been disliked and the newly restored emperor found himself not unwilling but incapable of fulfilling his promises. The partition of the empire was agreed to by the Cru-saders, and a Latin Empire was set up, an empire founded on purely feudal lines, which did more than any thing else to disintegrate the Eastern Empire and to prepare it for its ultimate fate at the hands of the Turks. Venice, a rising and increasing power, had seen that the newly established empire should not be a menuce to her own power, and the decline of the Latin Empire was remarkably rapid. The crime of the sacking of Constantinople, and the breaking up of the emnopie, and the organia appropriated; pire was, however, unpremeditated; circumstances had played into their lands, and the leaders of the fourth crusade simply took advantage of that fact. The empire was divided up. that fact. The empire was divided up,

and all the states were made subordi nate to the Latin emperors, the first of whom was Baldwin of Flanders. Of whole was Salukin of Fainters, Opposition to the Latin Empire was quickly organised. Ten years after its commencement it had begun to decline, and in 1261 Constantinople was captured by the Greek emperor, Michael Palæologus. Even after this recovery the empire was again menaced by Charles of Anjou, who proposed to restore the Latin Empire, but was assassinated in 1252, before he could set out on the expedition. The next century and a half marked the increase in power of the Turk and the Servian. The Servians, after crushing the Bulgars, were themselves finally crushed towards the end of the 14th century by the Turks. The Turks gradually won possession after possession of the Eastern Empire in Asia Minor, and then, about 1360, crossed over to the mainland of Europe. The emperors fought well, they appealed to Europe, they did all they could to prevent the final conquest of the empire, but they failed. Europe did not rally to their help, the Turk gradually conquered the whole of the Balkan Peninsula and threatened Hungary. An attempt was made to crush the Turks, but although one victory was won, the Turks continued their victorious course. At the begindefeat of the 15th century the Mongol defeat of the Turks checked their career, but by 1420 they had recovered, and Constantinople was again attacked. In 1443 the Christians, who had rallied to the help of the empire, won a victory which, however, was fully avenged in 1444

at Varna.

In April 1453 began the final siege of Constantinople, and in May the walls were breached and the city taken, the Emperor Constantine XI. falling in the final assault. The city was captured on May 29, 1453. With the fall of Constantinople we can say that the Eastern Empire fell. Parts of it held out under their local leaders, but they were easily crushed, and by 1460 the whole of the Balkan Poninsula was in the hands of the Turks. It had been inevitable since the Normans began to expand eastward and the Turk westward, that the empire should fall. The disruption of the empire in 1204, however, gave it a shock from which it could never recover, and which led more than anything else to its ultimate conquest.

Art.—By Byzantine art is meant the characteristic art of the B. E. We can affix no absolutely definite date for its commencement, but we can practically take the period which saw the separation of the Eastern and Western Empires as the period of the

beginning of this art. It had enormous of the Roman empire to Byzantium influence both upon the E. and the W. i until the fall of the city in 1453. This being itself also influenced by E. and literature is vast in extent, and its W. Up to the period of the separation value in many departments of learnwhich culminated in the movement. Other great Byzantine art were the paintings. These have been con- Gregory of Nazianzus rank first, and denned because of the lack of exite the figures. But it is cuzenus and Cyparissiotes, and the right through list might easily be added to. Some

necessary to remember that it was list might easily be added to. Some almost impossible to represent the original poetry was written, though great scenes and topics usually de- not of a high order, by Pisides, Theopicted by Byzantine art in any other dosius, Prodomus, Philes. etc. The manner, and that the characteristic study of the ancient authors was types of Byzantine art are also carried on with great vigour, but characteristic of the topic which they characteristic of the topic which they hardly anything of great value was represent. Byzantine metal work and carving also hold a unique place in the history of the art of the world. I mamed Tzetzes, Eustathius Moscho-This came under very great influence pulus, Thomas Magister, and Trieliform the E and in time came tol nit. This came under very great influence pul from the E., and in time came to nit be regarded almost as a barbaric art. | de Ivory carving and silk pattern weaving also were developed under Byzan- the tine influence, and reached a great pitch during the period of Byzantine

the empires we may regard art as ing is considerable. The exact period that of the elassical period, and By- of its birth is unknown, as its earliest zantine art may to a very great ex- works almost fall in with the Grecotent be regarded as Roman art under Roman period, but its beginning may the influence of the E. It reached its be placed about the reign of Justinian, highest paint in order that a resultant as each though the provisor when the prior of the E. highest point in or just after the reign. The architects of this period were of Justinian, after which it sank mathematicians, and produced several of Justinian, after which it sank mathematicians, and produced several slowly into decadence, to rise again works on mechanics. In history, for a short time into prominence during the 11th and 12th centuries, it hough no great genius appears, there during the 11th and 12th centuries, is an innumerable host of small historie of Byzantine architection only on the history and customs of ture. This was a development of the their own city, but also universal Roman art influenced largely by histories. Beginning with Agathias Persian architecture and by Greek in the 6th century, some names of culture, both of which found a company these are Anna Company. culture, both of which found a comit these are Anna Commena. Cinnamus,
mon meeting ground in ConstantiNicephorus Gregoras, Michael Ducas,
mople. The two chief types are the
basilicon type and the circular or Chalcondyles. In addition to these,
central type. Of the latter type the Procopius wrote a Byzantiae history, chief examples are St. Sergius and Eusebius a universal history, Proxa-San Vitale (Ravenna), whilst the out- goras a history of Constantinople, standing example of the magnificence. Nicetas Acominatus a history of the of Byzantine architecture is to be Byzantine emperors. These are but lound in the church of Holy Wisdom a few of a maze of names, many of (St. Sophia) at Constantinople. By- whose works were collected by Niezantine decoration differs from that buhr and others and published in of the W., especially from that of 1828-53 as the Corpus Scriptorum Gothic art, since it is always flat and Historæ Bycantinæ. Rhetoric was incised and contrasts with the bold, also cultivated, the chief names being outstanding decoration of the Gothic those of Johannes Doxopater, Alexis type. That Byzantine art had a great Comnenus (emperor). Georgius of influence upon the W. cannot be Cyprus, and Demetrius Cydones. The doubted, since the influence of St. study of the philosophies of Plato and Mark's (Venice), which is essentially of Aristotle never ceased from Proclus Byzantine, has been very great: and in the 5th century till the great undoubtedly not only in architecture. Michael Psellus in the 11th, though but also in painting the E. was rethereful was not a favourite one, sponsible for the revival of interest. The discussion of theological problems which cultiminated in the of the great intellects ie well-known names

'eschichte 1897. cupying

ren hills It was founded by the Megarians about the year 657 B.C., and quickly, owing to its position, became a town of con-siderable importance. It passed into Byzantine Literature, the litera-ture written in Greek from the period when Constantine moved the capital the hands of the Persians, but was

freed from their control by Pau-colony. Severus attacked and capsanias the Spartan. During the tured it, levelling it to the ground, Peloponnesian War it was a constant and afterwards rebuilding a consource of contention between the siderable portion of it. Constantine, source of contention between the Athenians and the Spartans, falling seeing the advantages of the natural into the hands of each party in turn. During the period of the greatness of Macedonia under Alexander the Great it passed into the hands of Great it passed into the hands of the Macedonians. It struggled The emblem of the crescent was against and repelled threatened invasions of the Gauls, and for some time enjoyed a certain amount of during their possession of the City. Independence. It became an allied The town received the name of Concity of Rome, but was later reduced to the position of an ordinary Roman occupied by Constantine.

c, the third letter of the Roman the blow-hole are some dozen small in sound to the Greek v. At a later period the Romans used C to represent the hard sound of the Greek κ , as well as the soft g. About the 3rd century B.C. the letter g was adopted to represent the soft sound in C. Consequently, when the letter C was introduced into Britain, it was used only to represent the hard sound of k. Cf. O.E. cyn, brêcan, rôc, with Mod. E. kin, break, rock. C before e, i, y in English, French, and Italian tended to become palatalised to a sound resembling tsh, tch. and finally ch. Cf. Lat. castra, a camp, with O.E. ceastre, Mod. E. Chester. The k sound of C was still retained when followed by a, o, u, or a consonant other than Cf. O.E. call, corn, cuman (come), deau, with their modern equivalents; but G before e, i, and y, when it retained the \(\kappa \) sound, was written \(k \) to avoid confusion. Thus O.E. cyning came to be written \(k \) ing. The palarity of the sound is a superior of the sound of the talised C before e and y was written ch, as in French. Thus, O.E. rice, cild, has developed into Mod. E. rich, child. O.E. cw was abandoned, and the French qw or qu adopted. Cf. O.E. cwen, M.E. quene, and Mod. E. queen ; O.E. cwedan, Mod. E. quoth.

C, in music, is the name applied to one of the notes of the gamut. scale of C major is called the natural scale, because it has neither sharps nor flats. The scale of C mmor use two flats, E and A. C is also used to represent common time, i.e. four

crotchets in a bar.
Caaba, sec KAABA.
Caaing Whale (Globiocephalus melas), a cotacean of the dolphin family, is variously known as the Pilot-whale, the Black Fish, or the Social Whale. The name 'casing' is derived from a Scottish word, caa, to These whales, which feed chieffy on cuttle-fish, are mild in disposition, and are not only very gregarious, but are also more often stranded than any other species. At Houlflord, Iceland, 1110 were caught during one winter (1809-10). and shoals of 100 are not uncommon. Except for a white streak under their stomach the C. Ws. are black: their

alphabet, was originally equivalent conical teeth. In front of the blowhole is a lump of fat. Generally speaking, the head is flat and broad. genus of whale is found in almost every sea.

Cab, see CABS.

Cabal (Fr. cabale, Heb. kabbáláh, something received, with an idea of secrecy). The term was originally applied to the notorious ministry of Charles II., consisting of Clifford, Ashley, Buckingham, Arlington, and Lauderdale, who held office during the years 1667 to 1673. The word is now applied to any intriguing faction that works in secret for private or political ends.

Cabanel, Alexandre (1823 - 89), French painter, born at Montpellier and studied under Picot. In 1845, he won the grand prix de Rome at the same time as Benouville. After receiving various other honours, he became, in 1863, a member of the Institute, and professor in the Ecole des Beaux-Arts. Attention was first called to him by his Death of Moses' (1852), and his reputation was thoroughly established by the works which followed: 'St Augustine and St. Monica,' and 'The Florentine Painter.' C. distinguished himself in genre, historical and portrait paint-In the last kind he was long ings. matchless, and his feminine portraits are distinguished aristocratic bv delicacy and graceful colouring. Other of his works are: 'The Christian Martyr,' The Death of Venus,' and Adam and Eve.'

Cabanis, Pierre Jean Georges (1757-1808), a French physician and writer, born at Cosnac, Charente-Inférieure. He studied in Paris. and in 1773 went for a short while to Warsaw, but re-turned to Paris to study medicine. During the Revolution he ucted as physician and friend to Mirabeau; in 1797 he was made clinical professor in the medical school at Paris, he was elected to the Five Hundred, and. under Napoleon, became a member of the Senate. C. wrote extensively on medicine and on metaphysics. Lettres sur les causes premières expresses his belief in immortality and in a living and personal God. skin is quite smooth. At the tail there is a big fork. The fore limbs, which are about 5 ft. long, join the body very low down. The front of the skull 1844. The Journal de la maladie et is nose-shaped, and above and below de la mort de Honoré de Mirabeau

brousse. Quelques notes sur Cubanis,

1903. to Britain, though it has been said by Alphonse de Candolla that reality descended from the one or two species still to be found growing wild on the Mediterranean coast. In any case the cultivated varieties now differ very much from the original kind. The wild C. is a somewhat insignificant plant, growing from one to two feet high, resembling in appearance the corn mustard, the only dif-ference being its smooth leaves. The following is a classification of the several kinds of cultivated Cs.: I. All the leaf-buds active and open, as in the wild C. and kale. 2. All the leafbuds active, but forming heads, as in alone active and open, with flower-dangerous pest. abortive and succulent, as in cauliflower and broccoli. 5. All leaf-buds active and open, with the flowers abortive and succulent, as in sprouting broccoli. A very interesting variety of C. is grown in the Channel Is., known as the Jersey C. Its usual height is about 8 ft., but it has been known to reach a height of 16 ft. The central stein is so woody that it is used for the making of walkingsticks. Some varieties are even cultivated as ornamental plants on account of the beauty of their leaves in form and colour. Brussel sprouts resemble miniature Cs. Nothing seems to be known as to the origin of the plant, but according to Van Mons (1765-1842) it was heard of in 1213, by the name of 'sprnyten.' It is most hardy and productive, and ready for use in i November, and lasting till the following March. The Sayov is a hardy green variety, with the characteristic of producing very crinkled leaves The cauliflower is said to have been brought from Cyprus, where it appears it had been cultivated for ages. It grows well in a rich soil, with a sheltered position, and is a vegetable with a most delicate flavour. Broccoli is a variety of cauliflower. The earliest sowing of C. should be made early in March, to be ready for use in July and August, and another sowing should take place at the end of March. to ensure a supply from August to November. The most important of all is the autumn sowing, which should be made the last week in August.

Cabbage Butterfly is a name com-

(1791) was written in answer to a which feed on the leaves of crucicharge that C. had poisoned his ferous plants, especially of cabbages, friend. Consult Dubois, Examen des The Large White (Pieris or Pontia doctrines de Cabanis, 1842; and La brassica) is a very common variety in Great Britain. The expanded wings measure 3 in, across, and are white with black edgings and spots. female, which is the prettier, lays her vellow eggs in clusters on the leaves of caterpillar food. The fully-grown caterpillar sometimes measures 1; in.. and will eat twice her own weight of leaf in twenty-four hours. After it has hung for some time by its tail from a ledge, it is changed into a shining pale green chrysalis. butterily, which, in the case of the autumn brood, waits till winter is past before coming out, lives daintily on nectar. The small White, or Turnip Butterfly (Pieris rapæ), has a wing expansion of about 2 in., lays its eggs singly on the under side of vegetable leaves, and produces a velvety caterpillar which devours the hearts, instead of merely the leaves, Brussel sprouts. 3. Only the terminal velvety caterpillar which devours the leaf-bud active, forming a head, as in hearts, instead of merely the leaves, common C. 4. The terminal leaf-bud of cabbages. It is often, therefore, a dangerous post. The chrysalis is brownish-yellow with black spots. The third variety, the Green-veined White Butterfly (Pieris Napi), which is similar to the former, cannot multiply so fast, because both the butterfly and its caterpillar are a favourite food of small birds, wasps, and insects.

Cabbage Palm, or Cabbage Tree. There are many different species, the principal being the Arcca oleracea. It is a native of the West Indies, where it often grows to the height of 100 ft. It owes its name to the fact of the terminal bud being edible, and in form resembling a cabbage. The removal of the terminal bud quite

destroys the tree.

Cabbala (Heb. kabbáláh, comething received, hence tradition), the designation of a mystic system of philosophy, theosophy, and magic, once prevalent among the Jews. Its popularity began in the 12th century and continued till the 16th. It has now few adherents-these for the most part in Eastern Europe. Cabbalists taught a puntheistic doctrine that there was one Being and that nothing existed but this one Being and its manifestations, God. therefore, wa- an Absolute Being, and from Him emanated ten attributeswisdom, understanding, mercy, and the like—that as this Being became conscious of its existence, it poured itself through 'channels' into the world of pure spirits and angels and into the lower world, which thereupon came into existence; that the soul of man passed from body to body, till it finally returned to and became mon to several species, the larvæ of absorbed in God. Their teaching was

philosophy of Plato, combined with the thrower. the degenerate philosophies of the Neoplatonists and Neopythagoreans. The Cabbalists attached much significance to numbers. The fact that every letter in Hebrew stands for a number enabled them to read into the Scriptures many strange doctrines. Every passage was regarded as symbolic and interpreted thus. It was claimed that their doctrine had been revealed, according to some, to Abraham, and, according to others, to Adam: the tradition was passed on by word of month until it was felt necessary to put the mystic lore into a permanent and written form. The authoritative documents of C. are: (1) The Sefer Jezirah, Book of Creation, supposed to have been written by Rabbi Akiba (d. A. D. 135). The existing document, from Internal evidence, belongs to the 8th century or even to a later date. It consists of a series of monologues put into the mouth of Abraham. (2) The Sefer Hazzohar, 'Book of Light,' commonly called Zohar. This has been ascribed to Simeon ben Jochal, a disciple of Akiba, but, like the Sefer Jezirah. belongs to a much later period. It is written in a form of Aramule which shows it to have been composed in the 12th or 13th century, and some modern scholars have suggested that the author might have been Moses de Leon of Spain. The doctrines of the Sefer Jezirah are here set out in much greater detail. Other Cabbal i-tic writers were: R. Moses ben is Ramban

Mirandola 1486): and Renchlin (De arte Cabbalistica, 1517). Consult Knor bala Denuda

Philosophia

Ginsburg, The Kabbala, 1865.
Cabeiri, The, are a group of mystic deities in Greek mythology who have been variously identified with Demoter, Persephone, and Rhea; with the Dioscari, and with Hephastus or Dionysus and Hermes. They were worshipped Imbros, at Lemnos, Thebes (the Bootlan), and Pergamus. but above all at Samothrace, where there were pligrimages and a very elaborate ceremony of initiation.

Cabello, see PUPETO CABELLO. Caber, Tossing the 1s especially a Scottish sport—a conspicuous event in most Highland games. It consists in throwing a tree trunk, often 20 ft. long, in such a way that, after spinning in the air, it will fill in a straight line with the 'toser,' the smaller end being furthest from him. The caher, the diameter of whose thin end should

obviously influenced by the idealistic, hurled as far as possible away from

Cabes, or Gabes (anct. Tacapre), a port of Tunis, situated on the Gulf of C. (the anct Syrtis Minor). The harbour is shallow, but considerable trade is carried on by means of small The chief exports are fruit. vessels. wool, and esparto grass. There is an Arabic school, and the place is the seat of the provincial governor, Pop. about 12,000.

Cabet, Etienne (1788-1856), French communist, was the son of a cooper of Dijon. Under Louis-Philippe he became procureur-général of Corsica, but was forced to resign, because in his Histoire de la Révolution de 1830 (in which he had played a small part) he reproached the government for its conservation. Other bitter attacks on the government, made in the chamber of deputies of which he was a member, led to his voluntary exile in England (1834). On his return to France in 1839, after the declaration of a general amnesty, he published a flerce history of the Great Revolution in four volumes (1840), and later his Voyage in Icarie, a romance wherein he expressed his communistic ideals. Determined to put some of them into practice, he sent out in 1818, with the approval of Robert Owen. teaching and personality he had learnt to admire in England, a colony of 1500 'learians' to a tract of land in Texas. But the community of property, which was to have been the special feature of the settlement, proved an utter failure. In 1849 C. himself sailed to America, and trans-ferred the settlers to Nauvoo in ferred the settlers to Illinois. For a time he ruled his little land like an autocrat, but was finally banished in 1856, the year of hisdeath. Cabeza del Buey (' head of a bul-

lock'), a tn. of Spain, in the prov. of Badajoz, 86 in. E. by S.E. of that city. There are manufactures of linen and woollen goods. Pop. 7000.

Cabin (It. capanna, Sp. cabaña); 1. A small room in a ship used as a electing apartment. A swinging hummock or cot is sometimes called a hanging C. 2. A rude shelter or hut, used by primitive races, explorers, and Scottish and Irish peasants.

Also a temporary shelter for stores.
Cabinda, or Kabinda, the cap, and
the name of a ter, in Portuguese W.
Africa, in the dist, of Angola, N. of the Congo. Has a coast trade and builds boats. Pop. over 9000.

Cabinet, a term recognised by the conventions of the constitution but not by the law, applied to the body of men who are chosen from the predominant political party of the day to fill the highest executive offices in not be more than 3 in., must also be the state, and who, by their apparently

government of the empire, and are collectively responsible for every act

of the Crown. History of the cabinet.—There were indications of an inner council of the state before the Tudor period. but they are of an indefinite nature. It is well established, however, that the C. of modern times is an emanation by a long process of evolution Privy Council, king's the whereby each council increases in numbers until a nucleus forms inside it which in its turn grows larger and absorbs the parent body, only to be subject itself in time to a similar metamorphosis. Even before the Conquest there always existed a body of advisers of the Crown distinct from After the the General Assembly. Conquest that body was known as the Continual Council, or Concilium Ordinarium, and was in effect a permanent committee of the National or Common Council, which became merged in the larger assembly when-Nominally. ever it was convened. this committee was the instrument of the royal prerogative. Under the weaker monarchs it was virtually independent. Then the Common Council gradually evolves itself into the National Parliament, and the Concilium Ordinarium becomes a strictly official body distinct from it and wielding enormous executive powers, its members being bound by a special oath of fidelity and secrecy. During executive matters, lapses into a body of legal advisers or figures in the Star Chamber. The Privy Council con-tinued to be the king's advisers down down That to the reign of Charles II. monarch found its numbers too large and the restraints it imposed on his actions irksome. He therefore resorted to the practice of confiding in a 'cabal' or clique of confidents. Sir William Temple eventually persuaded him to agree to the alternative plan of forming a select committee of the The Privy 1689 or shortly after. The Privy Council has at the present day no

or really unanimous policy, direct the The Cs. of William III. and Anne were chosen from both Whigs and Tories for the most part. William III. was strongly opposed to government by party, but from force of circumstances began after 1693 to entrust the chief administrative offices to the Whigs. The resulting body was popularly known as the Junto. When the Whigs went out of power the ministry did not feel compelled to Queen Anne was especially resign. averse from party government, and it was only after the accession of George I. that party government, or parliamentary government by means of a ministry composed nominally of king's servants but actually of an executive committee representing the will of the majority in the House of Commons, becomes finally and firmly established, a result due rather to the fortuitous circumstance that both that monarch and George II. acquiesced in the domination of their ministers, and absented themselves from the deliberations of the C .. partly because they could not under-stand English and English affairs, and partly because they preferred to devote their energies to Hanover. Finally, on the advent of Pitt's ministry of 1783, the idea of a C. consisting of men willing to serve under a prime minister, and to adhere to a definite programme, becomes an established necessity.

Characteristics and nature of the modern cabinet .- The C. or ministry the reign of Henry VI. a nucleus of the day is a committee of leading forms within the Concilium Ordimembers of the two Houses of Parlianarium called the Concilium Privatument nominated by the Crown, but tum, or Privy Council, constituting consisting exclusively of statesmen the king's constitutional body of advivose opinions on the most imporvisers, while the Concilium Orditant questions of the time agree in the narium, no longer consulted on main with the opinions of the majority of the House of Commons. The C. now invariably includes the five now invarianty includes the acceptance of the treasury, the Chancellor of the Exchequer, the Lord Chancellor, the Exchequer, the Lord Chancellor, the President of the Council, and either the Lord-Lieutenant of Ireland or his chief secretary. Lately the Secretary for Scotland and the Presidents of the Board of Trade and the Local Government Board have had seats in the C. A novel feature in 1912 was the inclusion of the Attorney-General, Sir Rufus Isaacs. Nearly all the memof forming a select commutee of the the inclusion of the Attorney-General, Privy Council, called the C. Council. Sir Rufus Isaacs. Nearly all the mem-this distinction between the C. and bers of the C. are chiefs of departitude of the council, and the council of the council of the council of the council of the sake of their advice, and to dates rather from the revolution of these are assigned such offices as Lord. Privy Seal or Chancellor of the Duchy of Lancaster. The Postmaster-Council has a till the control of th existing for the purpose of carrying necessarily members of the C. into effect the deliberations of the C. The result of the establish

The result of the establishment of

our system of government upon a representative basis is that the C. is collectively responsible to parliament for the policy it pursues, and, in theory, the members of the C. are obliged to stand or fall together, and to act as one man on all questions relating to the executive government, so that if one of them dissents from the rest on a question too important to admit of compromise, it is his duty to resign. When the policy of the C. no longer commands the approval of the majority of the House of Commons, the ministers are in duty bound to

resign en bloque. The C. is presided over by a chief who is conventionally known as the Prime Minister or Premier, but is unknown to the law except in his capacity of First Lord of the Treasury, or as holder of some other execu-Privy Council, which latter body by a legal fiction is the constitu-tional advisory council of the king. The premier now has, however, a definite precedence allotted to him. The C. or Ministry (the terms being almost synonymous) is called into existence by the sovereign, generally taking the advice of the outgoing premier as to who shall be sent for and asked to form the new ministry. In practice the sovereign's choice is really limited to some two or three names at most, for political usage has established the claim of the leader of the dominating party or coalition of parties to be sent for by the monarch. According to Bagehot, if any one else were sent for it would be his duty to press the claims of the true leader, and he cites the case of Lord Granville being invited in the first place to form a ministry instead of Mr. Glad-stone. The new premier then chooses his fellow C. ministers, but custom does not permit him to exclude ex-ministers belonging to his party. In theory all members of the C. should defer to the premier, and if they differ on a vital question of principle, they ought to resign. Differences of opinion when publicly manifested bring the C. to an end, because by the conventions of the constitution all the members of the C. are jointly and severally responsible for all its measures. A definite split in the C. makes it incumbent on the premier, after endeavouring to bring his colleagues into agreement, to seek as a last resource an interview with the king.

The relations of the king and the C. are such that the king is constitutionally obliged to take the C.'s advice, lend it his moral and social support, and dismiss any high government official who opposes its wishes. The C. is bound, as is each individual

member, to inform the king on all important measures of the executive, but the premier has the exclusive right to approach the sovereign personally on all important matters of state. Other ministers, however, have a right to discuss with the king matters merely departmental.

The phrasity,' which i
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which, in its strict sense, denotes the
legal responsibility of every minister

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constitution, with which the law has
no direct concern (Dicey). Refore the
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manners it now means responsibility to public opinion or liability to lose office, for, as Sir William Anson points out, ministers act under such close and constant criticism that they are unlikely to break the law.

No C. can take or retain omce without a working majority, though it is difficult to state precisely what would constitute such a majority. A modern C. would not retain power for a week if a vote of censure were passed by a newly elected House of Commons. It is, as Mr. Dicey points out, difficult to ascertain the signs by which one is to know that the House of Commons has withdrawn its confidence from the C., a difficulty which is analogous to that which perplexed the statesmen of two centuries ago, namely, to determine the point at which a minister was bound to consider that he had lost the then essential confidence of the king. The king can, if he chooses, dismiss the C., but such conduct, though legal, would generally be unconstitutional. To dismiss a C. which commanded the confidence of the House of Commons for the time being would only be justified by the return of a majority for the opposite party at the ensuing election.

The C. is a wholly secret body. Its meetings are in theory and in reality secret. Nor is any non-member

Britain, the king being, as Mr. Trail says, but the visible symbol of power. It is true that it is necessary to consult the sovereign before definite step is taken, even any though that step is in the direction of legislation. But practically all the powers by law vested in the sovereign bers of the C. Whatever in legal theory the British polity may be, this governing machinery of the British

Constitution. While the foregoing is the generally accepted view of the position and functions of the C., it is to be observed that Eagehot, in The English Con-station, acutely defines the C. as a combining committee - a hyphen which fastens the legislative part to the executive part of the state; that while in its origin it belongs to the one, in its functions it belongs to the other; and that though it is a committee of the legislative assembly, it is a committee which can actually dissolve the parliament which appointed it, and appeal if it chooses to the next parliament. His theory is a refutation of the dogma that in our polity the lexi-lative and executive powers are entrusted to separate sets of persons, each independent of each other, and asserts that the peculiar excellence of the English Constitution is the practical fusion of the executive and legislative powers through the C. In comparing the C. with the presidential system of the U.S.A., in which latter system the legislative and executive powers are independent of each other, Barehot comes to the conclusion that the C. system is superior in that it facilitates administration, obviates the disadvantage of making the people the real executive-choosing body, eliminates corruption, and gets rid of the antagonism between the legislature and the executive which, springing from the fact that the House of Representatives is elected

allowed to be present at its sittings, I the Houses of Parliament and the allowed to be present at its sittings, the Houses of Parliament and the except on rare occasions, when some people on the other, as well as the department of official is summoned to give special information. No official record or minute is kept of its proceedings, except by the premier for communication to the king. Disclosures of C. decisions are now made only with the permission of the sore citation of the Ministers with the Parliament and the House of the Ministers with the Parliament and themselves of the sore in the premission of the sore citation of the Ministers with the Parliament and the House of the sore in the premission in practice of the ministers with the Parliament and the House of the sore in the premission in practice. only with the permission of the sovereign, such permission in practice liament and through the House of being obtained through the interpretation of the premier. The result counterpart of their association with of the evolution of the powers of the Crown and the prerogative. The the Council is that that body is decisions they take are taken under de factor the government of Great the competing pressure of a bias this way and a Lias that way, and strictly represent what is termed in mechanics. the composition of forces." Such a description could not be applied to a presidential system like that of the U.S.A., where the president is elected for a fixed term. Mr. Dicey, however, justly doubts whether the English are in practice exercised by the mem- | Constitution may not be undergoing an insensible change due to the in-creasing authority of the electorate. in reality is the form of the active He behaves a general election may in governing machinery of the British effect be a popular election of a particular statesman to the premier-ship, and that the time may come when, though all the forms of the constitution remain unchanged, an English prime minister will be as truly elected to office by a popular vote as is the American president.

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Cabinet Noir, a special secret department of the postal service, in which letters may be opened and read, then reclosed and sent on. This system was first organised in France under Louis XIV., and was destroyed with all systems of the same nature at the revolution. It was again established under Napoleon, but was given up on the formation of the republic-Cabiri, see Caberry, The.

Cable, a large rope or iron chain used on ships to hold the anchor. Cs. are made of hemp or jute, of galvanised or zine wire, and of chain-House of Representatives is elected Rope Cs, vary from 3 to 25 in, in by one process and the president by circumference. Hemp and wire ropes another, ends in the impairment of are used for towing and mooring each. The delicate relations of the C, purposes, whereas chain ropes are to the Crown on the one hand and to used on steam-hips, where they can

be moved and manipulated by steam : engines. Chain Cs. are made in links in 121 fathom lengths. In the mercantile service the chains are made in 15 fathom lengths. For Submarine Cables, see Telegraph; Cable Tramways, see TRAMWAYS; see also under CHAINS.

Cable, George Washington (b. 1841), American author, entered the 4th Mississippi cavalry of the Confederate army in 1863, and at the close of the war began his journalistic career in his native city, New Orleans. His Old Creole Days, which is a series of sketches of the old French-American life of New Orleans, first appeared in Scribner's Monthly, and served to introduce to the public a writer peculiarly gifted with descriptive powers and with a sympathetic insight into both the humorous and pathetic sides of life. His first novel. The Grandissimes (1880), gives an accurate picture of Creole life in Louisiana a contury ago. The Creoles of Louisiana (1884) was a history of the people, revealing their status in the civil life, and unfortunately roused considerable indignation among the Creoles themselves. In his Dr. Sevier (1883), which is probably his finest work of fiction, he reproduces with remarkable success the gentle French-English dialect of Louisiana. Life in the marshy lowlands at the mouth of the Mississippi is faithfully depicted in his short stories, Belles Demoiselles Plantation. His other books are Bonaventure (1888), The Cavalier (1901), and Kincaid's Battery (1908). For some time also he edited Current Literature, a New York monthly. In literature C. has suggested fresh and higher ideals for the historic novel. It is always his aim to represent in their truest light all real people or real events that he chose to bring into his works. Caboched, see HERALDRY.

Caborne, Caborne, Commander Warren Frederick (b. 1849), English naval Officer. He entered the Mercantile Marine, 1865, joining the Royal Naval Received. Reserve as sub-lieutenant, 1879. C. Commanded a transport in the Burmah Expedition, 1885-86, and was later In the Egyptian constguard service. Since 1900 he has been a member of the council of the Royal United Service Institution. He is deputy-Service Institution. chairman of the Shipwreeked Mariners Society, and interested in many other associations in connection with the navy. He has published various lectures and articles on naval and other subjects. C. retired in 1894 with the rank of commander.

Cabot, John (Cabotto, Giovanni) (1450-98). discoverer of N. America,

ised Venetian, and who finally settled as a merchant in Bristol. reached England that Columbus had discovered a vast new territory across the seas westward, and C., who had once been to Mecca and seen the richly-laden caravans come in from the uttermost regions of Asia, determined to follow in Columbus' footsteps and to secure for England a new trade route with the wealthy Asiatic marts, this time by ocean transit. Thus in 1496, having secured letters patent from Henry VII.. C. set forth in the Matthew, and after fifty-two days' sail landed on Cape Breton Is., where he planted the royal flag. Though he found a fertile soil and a temperate climate he discovered neither the silks nor precious stones for which he had come. In 1498, with fresh letters patent, he set out on his second voyage of discovery. He had heard from Joan Fernandez about Greenland, and thinking it part of the Asiatic continent, made his way in that direction. But once more, though he explored E. and W. the coasts of Greenland, reached Baffin Land and lighted on Newfoundland and Nova Scotia, he was obliged at length to return home, baffled in his search for Cipangu, or Japan, which was to have been the open door through which England passed to reach spices and the fine merchandise of the East. To C. must be credited the discovery of Newfoundland and other fisheries.

Cabot, Sebastiano (c.1474-1557), a navigator and cartographer, son of Giovanni C.; probably born at Venice, but his bp. and the date of his birth are alike uncertain. He has often been confused with his father; it appears more likely that it was Glovanni who undertook the voyage to the N.W. Passage about 1496-9, aithough his son may have accom-panied him. In 1512 Sebastiano won a reputation in England as a cartographer. He appears to have pregrapher. He appears to have pre-pared maps of Gascony and Guienne for Henry VIII., and later in the sume year to have been commissioned by Ferdinand V. of Spain for a similar purpose. On the death of Ferdinand in 1516, C. abandoned his projected voyage to the N.W. and returned to England in the following year. He again entered the service of Henry, and on his behalf set sail from Bristol on a voyage of discovery to Hudson Bay and Hudson Strait. (Doubts have been raised as to whether this voyage ever took place.) In 1519 C. was appointed pilot-major by the Spanish king, Charles V. In 1526, after a dispute between Spain and Portugal regardwas a Genoese who became a natural—with the Moluccas, C. was sent out

Plata and sailed up its tributary, the Paraguay, but his attempt to make colonies was a failure. Consequently, on his return in 1530, he was imprisoned for a year and exiled to Oran in Africa for two years. He was subsequently restored to his former post of pilot-major, but in 1547 resigned, and soon after was welcomed directing the Company of Merchant when in 1848 his leader abdicated his Adventurers (1553), which opened British trade with Russia. He appointed greeners to the company of Merchant when in 1848 his leader abdicated his appointed greeners to the company to the company of the company to the c in England by Edward VI. C. was

be seen in the

Consult Beazl

Cahot, 1898; (1869), Harrisse (Eng. translation, 1896), Dawson (1895), and Weare

(1897). Cabourg, a French vil. in Normandy in the dept. of Calvados on the Dives, 11 m. distant from Trouville. It is a account favouri of the and the good sa attrac-

tions there is a fine casino.

Cabra, a tn. 28 m. S.E. by S. of Cordova on the Jaen-Malaga railway in the province of Cordova, Southern Spain. Its old castle and cathedral are interesting remains of the Moorish settlement. Pop. (1900) 13,127.

Cabral, Pedro Alvarez (1460-1526),

a Portuguese navigator, who was sent in 1499 by the King of Portugal to establish a factory on the Malabar coast in India, and to win the friendship of the Rajah of Calicut. C. took of the neighbouring country. He seone of his ships back to Portugal announce his discovery, and with his other ships he set sail for India. During the voyage four of his vessels were lost, and among those who perished was Diaz. C. reached Calicut, and after several encounters with the natives, established a factory there. He continued to explore the Malabar coast, and returned to Portugal in 1501 with rich cargoes.

ous, and fishing is an important in-dustry. After the capitulation of Baylen in 1808, many French prisoners were sent to C., where they were cruelly treated.

Cabrera, Ramon (1806-77), Carlist leader, was educated for the Church. but on the death of Ferdinand he

by Charles V. to explore the coast-which broke out, as a staunch ally of line of Brazil. He entered the R. La the pretender Don Carlos, who was supported by the absolutist party. During the war which followed he distinguished himself no less by his cruelty than by his bravery. It is said that he shot 100 officers and 1100 prisoners of war to avenge the murder of his mother. In 1839 Don Carlos rewarded him with the governor-generalship of Valencia, Murcia, and

and inspector of the English navy ling the rebels to submit to the re-(1547). C.'s map, showing the dis-stored monarchy of Alphonso XII. coveries of himself and his father, can lis marriage with a rich English wife his absence from his native land e the causes of this signal act of

ovalty. Cabs are a form of horsed vehicle for carrying passengers with two or four wheels. At the beginning of the 19th century the cabriolet de place, invented about 1660 by Nicholas Sauvage, was introduced into London from Paris. The first eight licensed cabs-this shortening was adopted as early as 1825-appeared on London streets in 1823. Besides the driver they could carry two passengers in-side and were run for fares which were one-third less than those of the hackney coach. A contemporary newspaper refers to the fact that cabriolets were in honour of his majesty's birthday introduced to the public this morning '(April 23, 1832). These C. stood for hire in Portland Street, W., were painted yellow, and were limited in number to twelve. But the limit to their number was a westerly course, landed on the coast soon removed in spite of vested of Brazil and took possession of pa vhich had

ieg coach (Pepy's ' hacquenée ') was in its turn supplanted by a new kind of C. invented by Mr. Boulnois. In this In this vehicle the occupants faced one another and the driver sat on top. Finally in 1836 a larger C., a cheaper imitation of the brougham, came into The modern Clarence fouruse. wheeler is only an improvement of this design. As a rival to 'the growler' the 'hansom' was patented in 1834. This consisted originally of a square framework on two wheels with a 71 ft. diameter. Its greater speed, due largely to its lightness, and its spruce appearance and pleasant bounding motion make it a matter of regret to many that this means of street locomotion has to-day practi-cally been banished from the metrotropolis by the taxi-C. (motor), and instantly joined in the civil strife is fast disappearing from provincial

towns as well. In 1886 there were and 'Miracle of the Loaves,' at 3997 four-wheelers and 7020 hansoms Chieri. Two of his daughters were in London. The advent of the petrol-driven vehicle discouraged manu- Caccin traffic of hackney carriages or C. in London are the Hackney Carriage Acts, 1831-53; the Metropolitan Public Carriages Act, 1869; the London Cab Act, 1896; and the Loudon Cab and Stage Carriage Act of 1907. These acts protect drivers ingers, regulate

and stand for the just fares and the rules for hiring. Thus within the four-mile radius from Charing Cross the fare is one shilling for the first two and sixpence for every additional mile; outside the radius the fare for each additional mile is a shilling. Licences, which are only; granted to men of approved character who have satisfied the authority that they have studied the topography of the place, are issued by the commissioner of police, who is authorised to do this by the Home Secretary. Cabul, see KABUL.

Cabuyas (formerly Tabuco), a tn. on the Is. of Lucon, in the Philippines, situated near the lake of Bay. The cultivation of rice is carried on. Pop. 9500.

Probably a pupil of Soleri. He painted in fresco and oil; his manner partakes

Caccini, Giulio (c. 1546 - c. 1615), oriven venicie discouraged manu-facturers from patenting further im- called Gidlio Romano, Italian musi-provements such as indiarubber tyres cian, was born at Rome and studied provements such as indiarubber tyres | cian, was born at Rome and studied etc., for horse-drawn C. Cabmen's | under Scipione della Palia. About shelters, first established in 1875, by shelters, first established in 1875, by providing accommodation for drivers remained as singer to the Tuscan on the stands did much to encourage Court till his death. To him are due sobriety. Taximeters have been those first attempts at dramatic widely extended to ordinary hackney carriages. These are mechanical containing the same of these are: It frivances which register the fares—the calculation of the amount being made of the libretto is by Bardi; on a combined basis of time and distance. The acts which regulate the opera by Rinuccini. Another imterflic of hackney carriages or C. in portant reduction was the Nuove portant production was the Nuove Musiche, 1601, a collection of songs litan and madrigals, with instructions in the the art of singing. C. has been described by Angele Grello as father of a new style of music.'

Caceres, prov. and tn. of Spain in Estremadura. Belongs to the Tagus basin, in a rich agric, dist. It is noted for bacon; exports wool, red sausages (mbutidos), and olives, and manufs. leather and cork goods. The province contains two bishopries-Coria and Plasencia. Pop. c. 365,000. The town was founded c. 74 B.C., and taken from Moors, 1225. It is on a branch-line meeting the more northerly of the two Madrid-Lisbon railways at Arroyo. It had an old Jesuit college, now an hospital. Education is bad, and the roads poor. There are fine old palaces near. It is probably on site of Norba Cæsarina, but is often connected with Castra Cacilia. Pop. about 17,000.

Cachalot, or Sperm Whale (Physeter macrocephalus), the only representative of its genus, is a huge toothed whale, measuring as much as 60 ft. in Cacao, see Cocoa.

Caccamo, a tn. in the prov. of palermo, Sicily. It lies 22 m. S.E. by with in a herd or school, consisting E. of that city. Precious stones, such as agate, beryl, and jasper, are mined in the neighbourhood. Pop. 8000.

Caccia, Guglielmo (1568-1625), a Piedmontese painter, called 'Il Montal Property of the provided with the second of the parents of the provided season of the provided with the second of the provided with the season of the provided season of the used in ointments, and twelve barrels full can be obtained from one fish. Verging to the left, at the anterior extremity of the head, is the blowmore of the Roman than the Bolog-more of the Roman than the Bolog-rese school, but he has something of extremity of the lead, is the blow-the energy of the Carracci. The hole, whilst the mouth, which is some church of Sant' Antonio Abbate, way behind the end of the snout, is Milan, has frescoes of his; another ventral. Excellent ivery in small work in fresco is the cupola of San quantities may be obtained from the Paolo at Novara. His works were teeth (about twenty-two in number). known and prized in many Italian; which line each side of the lower jaw.

cities. The Chiesa de' Conventuali has! This jaw, which is very narrow, may a regular gallery of his pictures; be let down so as to make an enormous Among his hest oil-paintings are: 'St. gape. The throat is said to be wide Peter' and 'St. Theresa,' in Turin; enough to allow the whale to swallow the 'Taking Down from the Cross,' a man. The head is very massive, at Novara: 'Raising of Lazarus' high and truncated in front; the

on squid and cuttlefish and are rarely seen in European waters. 'Ambergris' which is used in scents, is an in-potassium acetate. is often found floating on the sea.

Cachar, a dist. of British India in Assam, connected politically with Cachar Hills tract. It borders on It borders on 000 sq. m. The Manipur. Area over 2000 sq. m. The C. valley is narrow with many long minor yalleys from the Lushai hills. Pop. about 415,000.

earth to conceal food and other things

too heavy to carry.

Cachet, Lettres de, sce LETTRES DE

CACHET.

Bengal.

Cachexia (Gk. for 'an evil habit') is a term used in medicine to express a thoroughly unhealthy condition of the body, such as that occasioned by insufficient feeding and above all by chronic maladies. Doctors thus speak lead C. (resulting from leadpoisoning), gouty and cancerous C.

Cachoeira (' a waterfall '), a city of N.W. of Behia, on the R. Paraguassu. It has a considerable export trade in coffee, sugar, and tobacco. Pop. 15,000.

Cacholong is a beautiful mineral, looked upon as a variety of semi-opal. Usually it is milk-white in colour, but it sometimes has pale red and yellow tints. It is porous, and has a lustre rather like that of mother-of-pearl. whence it is often called Pearl Opal. The word is likely to be of Tartar origin, but it is popularly supposed to have been named after the river Cach in Bokhara.

Cachucha, a Spanish dance of an oriental national time.

whirling.

Cacique, or Cazique, a title equivalent to lord or prince, borne by native chiefs of Mexico, Peru, Hayti, Cuba. and the W. of S. America at the time of Spanish exploration. More recently the title has been given to chiefs of independent Indian tribes.

Cacodæmon, see DEMONOLOGY.

Cacodyl (Asz(CIIz)4), or tetramethyl diarsine, is a colourless liquid boiling at 170° C. It is very poisonous and its smell is so offensive that it was named by Berzellus from a Greek and Echir

flipper is short and broad, and the word meaning stinking, a trace of the dorsal fin merely a low protuberance. In colour it is black above, and grey render it intolerable. It is derived beneath. Sperm whales feed chiefly from a product known as 'Cadet's on squid and cuttlefish and are rarely furning liquid,' first formed by Cadet in 1760 by distilling white arsonic and This liquid is testinal concretion of this species; it furning and spontaneously inflammable, consisting among other thingof C. oxide and a little C., the latter causing the spontaneous combustion. This liquid is distilled with hydro-chloric acid and corrosive sublimate and C. chloride is produced, whence C is obtained by heating with zinc. The It produces tea for export, also rice true nature of C. and its derivative and cotton, and sends timber to was discovered by Bunsen in a prolonged research about 1840. In chemical action it acts like an elec-Cache (Fr., a hiding place) is a chemical action it acts like an elec-word used in Canada and the Western trically positive element, forming un United States for a hole dug in the oxide, chloride, iodide, and cyanide, earth to conceal food and other things. An acid called cacodylic acid is formed when the oxide is acted upon by mercuric oxide, and the salts are sometimes used for skin diseases. C. evanide is a colourless liquid obtained by distilling the oxide with mercury eyanide. The operation must be performed with extraordinary care in the open air, since the volatile vapour is among the most poisonous substances known.

Cacongo, a small dist. of Western Africa, to the N. of the mouth of the Brazil, in the prov. of Behia, 60 m. Congo, between Kuilu and Chiloango. It now forms part of the Congo Free State and French Congo, and its

name has fallen into disuse.

Cactus (plural, Cacti), plants which with few exceptions are natives of Mexico, South America, and Cali-Mexico, South America, and fornia. The number of varieties of C. approaches approximately to 1000 specimens. They are very curious both in structure and growth. They are specially suited to desert wastes and dry arid hill-sides. They have thick juicy stems which hold large quantities of water, and as only a very small part of the surface of the whole plant is exposed, in addition to which I nature, of pronounced it is completely covered by a thick of character, written in 3-4 skin, transpiration and evaporation. The dancer holds castanets, are reduced to a minimum. Sometimes and the dance, which is graceful and there is only the one thick cylindrical voluptuous, gradually increases in prickly stem, in other specimens the speed until it becomes a frenzied plant also bears fleshy leaf-like applant also bears fleshy leaf-like ap-pendages, also covered with spines or prickles, and forming a very extraordinary looking member of the vegetable kingdom. The water or juice of these plants is sometimes drawn off by the natives and some-time-by cattle. The flowers of the C, are mostly very large and brilliantly coloured. There are about eighteen different genera of cacti, those most familiar with horticulturists being Mamillaria Opuntia,

rubbish, broken bricks and sand. A good drainage is essential when in pots. March is the best time for potting, and the soil should be rather dry, and no water given for four days. They should be repotted at intervals of two or three years. During the winter they should be kept exceedingly dry, and only watered about once a fortnight, but in summer they may be watered every four days. Caeti may be grown either from seed or by cuttings. The latter process is done by means of taking a cutting from an old plant with a sharp knife. and then placing it in a dry place till roots have sprouted. The process of growing from seed is not a difficult one. The common prickly pear also belongs to this order.

Cacus, a son of Vulcan, the Roman god of fire, son of Jupiter and Juno. was a notorious robber and giant. His home was in a cave on Mt. Avenine, where he stored the proceeds of his Having stolen and dragged into his cave some of the cattle which Hercules had carried away from Spain, he was killed by that hero. Hercules discovered the hiding-place by the lowing of the cattle within the cave in response to the lowing of the remainder of the herd as they were passing the entrance of the cave.

Cadamosto, Alvise Aloysda (1452-17), explorer, was born at Venice. In 1455 he undertook a voyage to the Canaries, and as far as the month of the Gambia. In 1456 he made a voyage to Senegambia. His account of his discoveries was published in 1507.

Caddenabbia, a beautiful health resort on the shores of Lake Como in Lombardy, Italy. It is surrounded by orange and citron groves. Its chief feature is the 'Villa Carlotta,' which contains valuable works of art by Canova and Thorwaldsen. 'The Triumph of Alexander' (Thorwald-'The sen) is one of its priceless gems

Caddie, signifies a lad who attends a golfer at play in order to carry his clubs. In the 18th century it signified a messenger or errand porter in

Edinburgh.

Caddis Flies, a family of insects allied to the dragon fly. The grub or larva is aquatic, feeding on water plants, and living enclosed in a sheath of sticks and gravel, held together by silk. This protection is necessary, as the body is long and soft and much sought after by fish. The adult is a four-winged, air-breathing insect not unlike a dull coloured dragon fly with a sucking proboscis instead of jaws. It feeds on the juices of plants. Its chief characteristic features are. a small head, compound eyes, hemi-

these plants the soil should consist spherical in shape, three eye-spots, of a mixture of fibrous loam, lime and few or no transversal veius. Adults are particularly active at night. Eggs are laid in gelatinous masses on plants, stones, or in water. Into these the larve pass and surround themselves with a sheath composed of minute fragments of wood, grass, leaves, or shell, bound together by a spinning gland. Within these sheaths the larvæ are both sheltered and protected. After a while the larva moves its tube and spins silken blinds across the ends. The pupa metamorphis then begins, and at an advanced stage the pupe burst their prisons and swim or creep about for a while before undergoing the change into acrial life. Some float on the top in their cases and then take flight. They occur chiefly in Europe, and a large percentage of species may be found in Great Britain. Some of the most noted species in Britain are the Phryganea, Limnophilus, Brachycentrus, Apatania, Mollamia, and Setodes. The larvæ are common in ponds and streams in spring, and are used as excellent buit by anglers. The class to which the C. F. belongs is known as neopterous class of insects.

Cade, John (d. 1450), rebel of Irish birth, noted as leader of the Kentish rising of 1450, called 'Jack Cade's Rebellion.' It is supposed that he was banished for murder, 1449, and then served in the French wars. He returned under the name of Aylmer. a physician. The most usual story is that C. was given out to be Mortimer. the Duke of York's cousin (for different view see G-irdner). When the court demanded reasons for the insurrection. C. issued a paper. Complaint of the Commons of Kent, objecting to the king's favourites, excessive taxation, and general misgovernment. They protested that free election of knights in their shire had been hindered, and encamped on Blackheath. Another paper, Requests by the Captain of the Great Assembly by the Captain of the Great Assembly in Kent, demanded the dismissal of certain ministers of Henry VI. The king's troops were defeated in a skirmish at Sevenoaks the rebels pressing on to London. C. had Baron Say and Crowmer, sheriff of Kent, beheaded. Then, retiring, he was repulsed at London Bridge. Terms of peace were arranged, but C. broke open the prisons, withdrawing to Rochester. At Queenborough he was repulsed, and quarrels over booty lost him supporters. C. was finally killed at Heathfield. See Three filled at Heathfield. See Three Fifteenth - Century Chronicles, ed. Gairdner, 1880; Gairdner's Introduction to the Paston Letters, 1904; Kriehn's English Rising of 1150, 1892. Cadell (d. 1175), a S. Welsh prince,

over part of Ceredigion and the valley of Towy. He captured the castle of Carmarthen in 1145. He went on a pilgrimage to Rome (c. 1160), and on his return became a monk in the abbey of Strata Florida, where he died.

Cadell, Francis (1822-79), Australian explorer, midshipman in East India Company's service, service Wales. It is composed of passive Chinese war of 1840-1, and became Wales. It is composed of passive captain of a vessel in 1844. He made porphryry with beds of slag and pumice. The highest peak is 2914 ft. In 1848he examined mouth of Murray | Length 10 m., and breadth 2 m. R., and explored it and its tributaries in 1853-9. He became a squatter near the Darling R., and was afterwards

murdered by his crew at sea.

Cadell, Robert (1788-1849), a Scottish publisher, was born at Edin-burgh. He entered the house of Archibald Constable & Co., publishers of Edinburgh, and became a partner in 1811. In 1826 he dissolved the partnership and in 1827 secured the copyright of Sir Walter Scott's novels

southerly countries and is dangerous ship Britannia, after which they to stored corn and meal. When full-become midshipmen. grown it is about in. long. It feeds on bread, almonds, and even rotten

wood.

Cadence (Lat. cadere), the 'fall' If the penultimate chord is on the nature. subdominant, the C. is called 'plagal;' al-qazi. if on the dominant, 'authentic.' The former occurs chiefly in sacred the dept. of Gironde, situated on the music. The harmony of the imperfect R. Garonne, 16 m. S.E. of Bordeaux. C. is often that of the perfect re- Pop. 2783. versed, ending on a dominant chord 1895.

Cadency, see HERALDRY.

Cadenza, in music signifies a ornamental flourish introduced by soloist at the close of a piece or sectio

son of Gruffudd, whose rule extended tof a piece. It is generally improvised, and affords the executant an opportunity of showing his ability.

Cadereita, or Cadereyta, a tn. of Mexico in the county of Hidalgo and state of Queretaro, 42 m. E. of the town of that name. There are silver mines in the district. Pop. 4200.

Cader Idris (Chair of Idris), a pic-

Cadet (military) (from Fr. through Lat. caput), signifies a youth studying for the army at one of the recognised military colleges. In France any officer junior to another is a C. in respect to him. The military colleges in England are at Sandhurst and Woolwich. The latter is for those destined for the engineers and artillery, and the former for other branches of military service.

Naval cadet signifies the lowest and published several editions, thereby acquiring a small fortune.

Cadelle, a small coleopterous insect sometimes found in granaries in hands of the Admiralty Board. There Britain. It is found chieffy in more is a two years' course on the training southerly countries and is dangerous thin. Beliancia of the Admiralty Board.

Cadi, or Kadi (Arabic, judge), title of an inferior judge among Mohammedan nations. Possesses civil and Cadence (Lat. cidere), the 'fall' (criminal jurisdiction, his powers inor close of a musical phrase or period (cluding infliction of the capital (often applied to last two chords), penalty. Originally also a theologian, Term applies both to melodic and a sall Mohammedan law is based on harmonic endings, and need notimply:
a fall in pitch. Cs. are like punctuation marks in the language of music. They may give an effect of finality, court. In Turkey he is appointed by of mere pausing, or of questioning; the head of the Mohammedan Church The varieties are known as perfect, and known as 'Naib' receiving a imperfectand interrupted. Aperfect C. fixed salary. In Persia and Middle must have its final chord on the tonic. Asia the office is more of a private of the penultimate chord is on the nature. Spanish al-cadle. Arabic criminal jurisdiction, his powers in-Spanish al-calde, Arabic

Cadillac, a small tn. of France, in

rersed, ending on a dominant chord preceded by the tonic (half close, incomplete like a semicolon). If any except the tonic follows the chord to the dominant, the effect is that of the wine, fruit, fish, olive oil, and salt voiding or postponing. This is the most a ground the world with shown as aroided, deceptive, or interrupted C. The chord substituted for the expected tonic often gives a the most ancient cities of Europe, charming effect. For examples cap, of above prov., about 95 m. from consult any text-book on harmony; see also Gow's Structure of Music, of land in the Atlantic, it is one of the most important scapports of the Cadiz: 1. Prov. ín Andalusia. the most important scaports of the kingdom. Its position opens up with Europe and

nmercial importwing to decrease of communication with S. America and W. Indies. C. harbour is strongly fortified and divided into two parts. Ships go thence to Great Britain, Canary Is ands, W. Indies, France, Morocco, and S. America. The town is very picturesque, its white buildings standing out against the blue sea. Its streets are well paved and lighted and very clean. There is a lighted and very clean. The fine promenade, and the Genoves with a summer Parque theatre. There are two cathedrals, one built in 1597, the other in the 18th century. Other noted buildings are an old Capuchin convent; a hospital; the church of Santa Catalina, containing Murillo's last work, 'Betrothal of St. Catharino; Torre de Vigia (signal station); Académia de Bellas Artes. Among educational institutions it has a theological seminary, an archæological museum, and a faculty of medicine affiliated with the university of Seville. C. is the see of a bishop, suffragan to Archbishop of Seville. The climate is rather hot and unhealthy, and the water-supply insufficient. Pop.about 70,000. Founded by Phænicians c. 1100 B.c. (Gadeira or Gades); captured in turn by Carthaginians, Romans, Goths, Moors. The Christians took it, 1262; 1587 Drake destroyed its ships of war; 1596 sacked by English under Essex, Howard, and Raleigh; 1640 battle of Cadiz, French under De Brézé gaining a slight advantage; 1810-19 French invested C., but were forced to raise the siege; 1823 the Cortes made a stand against the French, who held it till 1828; 1868 the revolution began here. See Seville y Cadiz in series ' Ferraga' by D da Madrazo, 1884 e Casi. 35. tro.

Cadmium, a metallic chemical element discovered in 1817 by Stroymeyer in a sample of zinc oxide. It occurs as a constituent of most zinc ores and in the form of the sulphide in the mineral greenockite, found near Greenock in Scotland a

and Pennsylvania. In zinc ores the vapours o'

an early stage, so that the metal can be extracted from the first portion of the condensed dust. C. is a tin-white metal and takes a good polish. When sublimated in a current of hydrogen it forms octohedral crystals, and when sulphate

> vacuum It melts

at 321.7°, has a boiling point of 778°, and a specific gravity of 8.6. Wood's metal, which has a melting point of 60° contains C. in alloy with lead, tin, and bismuth. Cadmic oxide, CdO, is the 'brown blaze' of zinc smelters, and is also found as a mineral. Cadmic

hydroxide, Cd(OH), is formed as a white precipitate on adding potassium hydroxide to the solution of a salt of C. Cadmic chloride is prepared by evaporating a solution of the metal or oxide in hydrochloric acid. Cadmic iodide is obtained by dissolving the metal in hydrodic acid. Cadmic sulphide is the mineral greenockite, and can also be produced as a yellow precipitate by passing H₃S into a cadmic solution. It is used as a pigment. Cadmic sulphate is used medicinally in eye diseases. C. is bivalent, but the cadmous salts have not been obtained pure.

Crimes (Material in Appliedorus

and beer. and rried Eure her off he was sent to bring her back. but failed. The oracle at Delphi bade him give up his quest, follow a cow he was to meet, and build a city where she lay down. He followed her from Phocis to Bœotia, becoming founder of Thebes, the acropolis being called the Cadmeia (Καδμέια). slew a dragon, at Athene's command sowing the teeth, from which sprang armed men (επαρτόι, sown), who together till only five refought mained, from whom the Thebans claimed descent. C. married Harmonia, daughter of Aphrodite and Ares, and finally retired to Illyria as king. This story is compiled from

1867.
Cadmus of Miletus, perhaps the oldest of the logographi (λόγος-γράφω), a name applied now to Greek historiographers before Herodotus. Unless a purely mythical person, he

about 550 B.C. A confused in Suidas mentions three of name, two probably being

identical with the Phoenician C. (q.v.). The writer is supposed to have written a History of Ionia. See Miller, Fragmenta Historicorum Gracorum, 1841-70: Busolt, Gricchische Geschichte, 1893: Bury, Ancient Greek Historians, 1909 (lecture I.).

Cadoc the Wise (Cattury Ddoeth)
(d. c. 570), a noted Welsh martyr,
who founded the abbey and school
of Llancarvan, in Glamorganshire.
According to the account in Rees'
Lives of Cambro-Brilish Saints, he
prayed for a martyr's death, and was
stabbed while at mass by a soldier
the next day. Certain old proverbs

Cadogan, George Henry, fifth Earl, was born at Durham in 1840. In 1873 he succeeded to the title on the death of his father. In May 1875 he was appointed Parliamentary Under-Secretary for War, and he was made Under-Secretary of State for the Colonies in 1878. From 1886-92 he was Lord Privy Seal, and in 1895 he became lord-lieutenant of Ireland, in which position he received Queen Victoria in 1900. He retained this

position till 1902. Cadogan. William, first Earl (1675-1726), a British general. It is thought that he took part as a boy cornet at the battle of the Boyne in 1690. He

🗠 a quarter- l eat battles!

Cadogan's horse.' 1703-12.s colonel of C. was that king. sent on a diplomatic mission to the Sette off a deposition in the source of the Netherland (1707-10); appointed lieutenant of the Tower, 1709-15; and governor of the Isle of Wight 1716. M.1. for Woodstock, 1705 and 1714. It He rose to the rank of general in 1717, o and was created earl in 1718.

Cadore, a Venetian vil. in Italy, some 20 m. distant from Belluno, and celebrated as the birthplace of Titian.

Cadoudal, Georges (1771-1804), a distinguished leader of the Chouans, was born near Auray, Lower Brittany. He was among the first to take up arms against the republic, and acquired great influence among the He was captured in 1784, peasants. escaped and organised a wholly peasant army, which could never be subdued. After a period of apparent submission, he revolted again Brittany in 1799, and was compelled to submit. Bonaparte recognised his ability, activity, and character, and endeavoured to solicit his services but was unsuccessful. C. crossed over to England. He was made licutenantgeneral by the Comte D'Artois, and He went to Paris with first consul. He went to Paris with this design, but was captured and guillotined. His family was ennobled after the Restoration.

Cadoxton, a parish in S. Wales, co. Glamorgan, 5 in. S.W. by S. of Cardiff. It is situated on the Barry Dock and Taff Vale railways. Pop. 8200.

missioned officers, such the drummers, subalterns, etc. Round these the rest of the regiment may be gathered, as it were.

and fables, Doethineb Cathing Ddoeth. Caduceus, the name appared origin 'Wisdom of Cadoc the Wise,' and nally to an enchanter's wand, but Danniegion Cathing Ddoeth, 'Fables afterwards also applied to a hierald's of Cadoc the Wise,' have been ascribed staff. Hermes, or Mercury, is always depicted carrying such a staff. In made the handle, the other two being entwined in each other.

Cadwalader, spelt also Cædwalla (d. 634), King of Gwynedd, S. Wales. He invaded Northumbria in 629, and was driven to Ireland by an Anglian king, Endwine. He defeated Endwine at Hatfield and ravished Northumbria. He was defeated and slain near Hexham by Oswald, nephew of Endwine.

Cadwgan (d. 1192), a Welsh prince, son of Bleddyn ap Cynyrn, king of Gwynedd. C. beat back the invasion of William Rufus in 1097, but was defeated by the Earl of Shrewsbury two years later at Anglesey. He paid homage to the earl, and helped him against Henry I. in 1102, but was ultimately subdued and denosed by

- "ladzand, a vil. dland, 14 m. nouth of the Manny and

the Earl of Derby defeated the Count of Flanders in 1337.

Cadzow, see HAMILTON.

Cæcilia (Lat. cæcus, blind), a kind of serpent-like amphibian, of the order Apoda, about which little is known. It has a worm-like body, without tail or limbs, with transversely furrowed skin of a scaly These worms inhabit warm nature. countries and damp places, and bur-row like earthworms. It is 20 in, long, with the thickness of a large worm, and is found in America, India, and Africa.

Cæcilius Statius (d. c. 168 p.c.), a popular Roman comic poet and dramatist, born at Milan; a slave when young, he became a friend of Ennius. He is mentioned by Cicero (De Optimo Genere Oratorum, i.; Ad Atticum, vii.; De Finitus, ii. 7) and Horace (Epistles, ii. 1). Only short fragments of his works remain, chiefly in Anlus in 1802 con-pired to overthrow the Gellius. See Quintilian, Just. Oral., x. 1: Ribbeck, Comicorum Roman-orum Fragmenta, 1873; Teuffel, Cacilius Statius, etc., 1858.

Cæcum (derived from Lat. cæcus, meaning 'blind'), a sac perforated organ. 5 in. S.W. by S. of Car- at one end only, situated at the point It is situated on the Barry Dock of junction of the smaller with the larger intestine. It is not connected Cadre (Fr., frame), military term in man with any process, but in her which denotes the 'framework' of biverous animals it is probably an aid any reziment or corps, i.e. the permitted to digestion secreting a gastric fluid manent commissioned and non-comit is attached to the vermitterm It is attached to the vermiform appendix and i a condition

> Cædmon English Christian poet, 'father of

the future judgment and the horrors of the Huguenots, the Church also of heli-punishment, and the sweetness of the heavenly kingdom' (Bede).

C.'s Paraphrase, as described by Bede, was thought to be embodied in an MS. of sacred epics, now in the La Trinité, and was buried in the Christ, and Satan), but the best chief street, Rue St. Jean. preserved in an MS. of Bede's History now at Cambridge. For the text of the poems see Grein-Wülker, Biblio-Mek der angelsächsischen Pocsie, ii., 1894. See also Thorpe's translation, Cardmon, 1832. A memorial cross was erected at Whitby, 1898. Consult Bernhard Ten Brink, Early Boutervek. Dissertatio de Cædmone with the sea, and the railway conPoela, 1845; Longfellow, Poels and nections are good. Near by are
Poetry of Europe; Wright's Biothe celebrated subterranean stonequarries, from which comes the C.

He has left two valuable Latin works much used. The tn. dates at least (translated from the Greek of Soranus from 9th century, Pop. over 44,000. of Ephesus), De Morbis Chronicis See Delarue, Histoire de Caen, 1842: and De Morbis Acutis. There are Beaurepaire, Caen illustré, 1896. also fragments of his Medicinales Caerleon ('castle' of the legion').

Cœlum Scalptoris, the Sculptor's capitals of King Tool, a constellation of Lacaille. It Pop. about 1400. is situated below Columba Noachi and Canls Major, low enough not to

tise in this country.
Caen, a tn. of Normandy, France (Lat. Cadomum), cap. of dept. of Caer Calvados. Situated on R. Orne, about SHRE.

English song.' The only trustworthy 7 m. from English Channel and 124 information about him is in Bede's m. by rail from Paris. C. is in the Ecclesiastical History, iv. He was a midst of a fertile plain; it has good servant at Whitby monastery, where streets, fine squares, and many noble one night he had a vision, and a voice specimens of architecture. Near by bade him sing 'the origin of created is the 'Prairie' with its well-known things.' 'Thus sang he of the creation racecourse. St. Etienne Church was of the world, and the beginning of founded by William the Conqueror. the race of men, and all the history of A monument there set up to him by Genesis . . . also of the terrors of William Rufus was destroyed in 1562

Bodician Library, Oxford (titles of choir of that church. St. Pierre, the poems being Genesis, Exodus, Daniel, most beautiful church in C., is in the critics reject them, though they are other churches are St. Sauveur, St. possibly by later disciples. The theme Jean, St. Nicolas (now a caralry anticipants that the st. Nilley) was the standard of Nilley's was told and St. Nicolas (now a caralry anticipants that the standard of Nilley). anticipates that of Milton's great folder-store). C. Castle, begun by epics. The hymn which C. was supposed to have composed in his dream I. of England, was partly destroyed is in Northumbrian dialect, and is in 1793, now used as barracks. C. conpreserved in an MS of Belde's History Italies a pulsaryity a milesum a fine tains a university, a museum, a fine public library, and many other public institutions. There are monuments to the natives of Calvados killed in 1870-1, and to the lawyer Demo-lombe; besides statues of Louis XIV., Auber, and Malherbe. There is a vulker's Grundriss zur Geschichte der angelsächsischen Litteratur, 1885; and dyeworks. The famous Angora Stopford Brooke's English Litera rabitis are reared in the district. A bonterwek. Dissertatio de Cadana. branch of the Bank of France here. Cæflius Aurelianus, an eminent stone, so largely used in England in the 15th and 16th centuries. Winborn at Sicca in Africa, probably in the often and Canterbury Cathedrals are built of it, also Henry VII.'s of the 'methodic 'school of medicine. chapel at Westminster, and it is still He has left two valuable Latin works

also fragments of ms Accuracy and the discassification in which his Gymacia is abridged from Soranus's Hept ywracy mouth on R. Usk, 2 m. from Newstew machine the American Capital of Britannia Secunda (modern et Latina, ii. 1870). His writings were Wales); important in 12th century. considered more practical than those ruined later by constant wars be of any other medical authority of tween Welsh and Anglo-Normans. antiquity. See Kuehn's Programma the Carlio Aureliano, 1816. near. One of tractions of King Arthur's realms.

Caermarthen, see CARMARTHEN. Caermarthenshire, see CARMAR-THENSHIRE.

Caernarvon, see CARNARVON. Caernarvonshire, see CARNARVON- Caerphilly ('fort of the trench'), which can be brought to the contrary, eccles, parish and market tn. in there is little doubt now that C. Glamorganshire, Wales, 7½ m. from was born in the year 102, on July Cardiff. Station on L.N.W. railway. 12 of that year. Descended from a Large collieries and ironworks near, Manufs. linsey-woolsey, shirtings, blankets, checks, and shawls. Has ruins of Caerphilly Castle, once one of the largest strongholds in the

kingdom. Pop. (urban dist.) c. 16,000. Cæsalpinia is a tropical genus of Leguminose consisting of trees and shrubs, many of which are hookclimbers, and several being of com-mercial value. C. pulcherrima. mercial value. C. pulcherrima. Barbados pride, is cultivated for its beautiful flowers, as are C. sepiaria, Mysore thorn, which bears yellow flowers, and C. Japonica, which will flourish out of doors. C. Braziliensis yields Pernambuco or Brazil wood, valuable for the red dye it contains. while C. Sappan yields sappan-wood or Bukkun wood. C. Coriaria is known as the divi-divi tree and C. Bonducella yields Bonduc seeds.

Cæsalpinus, Cæsalpinus, Andreas (Latinised form of Andrea Cesalpino (1519-1603). botanist and physiologist, born at Arezzo in Tuscany. He studied at Pisa and afterwards became a pro-fessor there, where he had charge of the bota

work was

1583 under Libri XVI. This work commenced a new era in systematic botanical

research.

Cæsar, the title usually borne by the Roman emperors and by the heirapparent to the imperial throne. was in its origin the name of the patrician family of the Julia gens. This family was one of the oldest families in Rome, and had a long and proud descent, claiming lineage with the son of Æneas, the founder of the city. By Augustus it was adopted, since he was the adopted son of the great Julius Cresar, and by him it was passed on to his adopted son Tiberius. It was borne by successive emperors even after the direct line of the Julian family had become extinct. It represented the second title of the emperors, who still of course bore the title Augustus. By the heir of Adrian it was adopted as the title of the heirof the emperors throughout the suc-ceeding ages; the name Augustus still continued to be the title of the emperors. The name, or derivatives of the name, is still used, e.g. the Kaiser, the Tsar of all the Russias, and in the title Kaisar-i-Hind (the Emperor of India), which title is now borne by our own sovereigns.

patrician family, members of which had long been identified with the senatorial party, C. himself from the very beginning of his political career identified himself with the democratic party. This was, no doubt, due to his connection by marriage with the famous C. Marius, who was the husband of C.'s aunt, and who had taken a special interest in the boy who had been born in the year of

Cæsar



GAIUS JULIUS CÆSAR

Marius' great victory. His carly political career was highly dangerous. and at a very early age he incurred the anger of the great Sulla by his marriage to the daughter of Cinna. On Sulla's return he was degraded apparent, and was borne by the heirs from his position of priest of Jupiter, and deprived of his property, but his life was spared owing to the influence of his aristocratic relations and the pleadings of the college of vestal virgins. At this period he deemed it wise to leave Italy, and he saw his first military service in Asia (81 n.C.). Three years later we find him back again in Rome, the news of the death Cæsar, Gaius Julius (102-44 B.C.), of Sulla having recalled him. In the greatest of Roman soldiers and Rome there was a great democratic statesmen. In spite of the evidence reaction on the death of Sulla, and

self with the party of Lepidus, he In the same year (60) he became showed his active democratic sym-pathies by prosecuting two of the Sullan governors for extortion in their Every first two respectives and the prosecutions failed, and C. retired for a while to Rhodes in of Pompey in the East, he gave grants order to study rhetoric. He took part of land to Pompey's disbanded in the third Mithridatic War, and veterans, and he reconciled the in 74 was elected a pontifex on the capitalists as well. death of his uncle, C. Aurelius Cotta. clearly foresaw that He almost immediately became noted as a power in the as one of the democratic leaders, and took a leading part in the events which led to the sweeping away of the saleguard to senatorial rights and the partial restoration, at any rate, of the popular liberties. period of office he caused legislation Gradually and more friendly with Pompey. In 69 he served in Spain as a questor, and in the following year returned to Rome. The departure of Pompey for the East marks the real beginning of the career which was ultimately to lead C. to the dictatorship of Rome. From this time forward he is always to be found advocating the principles of the democratic party. During this period of his life, however, he was principally noted in Rome for the number and variety of his amours, for his extravagance, and for his life of pleasure. He was, perhaps, not regarded seriously as a coming statesman, since it appeared to be almost impossible that a man of pleasure such as C. should ultimately become the master of the Roman empire. His extravagance and the licentiousness of his life are two traits which are characteristic of the man, and which are to be found without much seeking during every part of his career. In 65 s.c. he was elected curule tedile, and two years later he became pontifex maximus. the same year (63 B.C.) the Catiline conspirators were accused by the consul Cicero. The name of C. was freely mentioned as one of the conspirators, and in fact the senatorial party tried hard to get his name included in the list. However much C., or his friend Crassus, knew of the plot, there is no doubt but that they were both opposed to it, although they were probably bound to have known of its existence. In 62 Pompey returned from the East to find himself in opposition to the senate, who had opposed many of his propositions, for the Roman republic dominion over and in alliance with C., whose opposition to the senate made him natural ally. In the next year C. went to the province of Further Spain, and remained there until the following year (60), when he returned out into revolt, and this, after some to Rome.

although C. refused to identify him-the two rivals, Crassus and Pompey. He, however, clearly foresaw that his importance as a power in the Roman republic must be strengthened by military force, and that it was necessary to obtain for himself the command of a province where he could train the legions to follow him. During his he was becoming more to be passed which gave him the friendly with Pompey. In command of Cisalpine Gaul and Illyria, and the overawed senate added also the command of Transalpine Gaul, in order that this pro-vince should not be given him by the popular party. The next nine years of C.'s life are taken up with his famous campaigns, campaigns from which he was to issue as the dictator of Rome, the founder of the Roman empire, and the hero of a Roman populace. Before setting out from Rome he realised that the time had arrived when it was necessary that Rome should crush the ambitions of the German tribes, or herself fall beneath them. Already the Germans had shown that they intended to contest with Rome the possession of Gaul; the Ædui had been defeated. the Sequani molested; it was high time that the Romans appeared to defend these allied tribes. The first victory of C. was over the Helvetii, who were driven by the incoming Germans from Switzerland. They demanded a passage through Roman territory and were refused. Forced by C. to march down the right bank of the Rhone, they succeeded, while C. was hurrying back for reinforcements, in crossing the river Saone, only to be defeated, crushed, and driven back to their original homes. He next succeeded in defeating the Germans under Ariovistus, and followed this blow up by defeating the Belge, whose fears had been aroused by the success of C. He then marched against the neighbouring tribe, the Nervii, and defeated them at a bloody battle in the Sambre, and in this way gained istily ider-

little difficulty, he was successful in On his return to Rome C. en-performing. In the meantime another deavoured successfully to reconcile of his officers had subdued the Aquitani of the S.W., so that by the and wife of Pompey, had died. Crassus end of the year the whole of Gaul lay had died in the same year. Pompey

of the Triumvirate in 56 B.C. had fixed the policy to be followed by the three leaders for some considerable did not immediately return from time. But in 54 B.C. the ties that bound C. and Poinpey had been some months, fascinated, it is said, by the what loosened. Julia, daughter of C. technical annual content of the charms of Cleopatra, for whose sake

end of the year the whole of Gaul lay lad died in the same year. Pompey subject to Rome. In 50 B.c. he attacked and destroyed two of the German tribes who had crossed the lower Rhine, and on this occasion; the famous bridge across the built the famous bridge across the lad practically become the leader of river in ten days. In the same year that party. The agreement made he first expedition to with C., that he should be allowed to Britain, actuated probably by the retain the 'imperium' until he obfact that the tribes of Northern Gaul tained the consulship in 45, was now fact that the tribes of Northern Gaul Laned the consulship in 48, was now received assistance from their kins, to be broken. In order to strengthen men in Britain. This first expedition Pompey it was necessary to weaken was little more than exploratory, and accomplished nothing. The Britons means of which C.'s successor should of the S. coast were reduced to a be appointed by 49, so that C. for nominal vassalage, but this had some time would be able to be perpractically no effect. In the follow-secuted. Negotiations were opened ing year another expedition took between the two leaders. C. came into place to Britain, and on this occasion residence on the borders of Italy C. stayed longer and accomplished proper, so that he could the more more. He penetrated Middlesex and casily obtain information of what was crossed the Thames into Essex. He happening in the Roman senate. This defeated Cassivelaurus, who, how-information came chiefly through a ever, was able to cause him consider- senator whom he had bribed. C. was able trouble. He imposed a tribute called upon to resign his command, on the Britons before he finally left and martial law was proclaimed. The on the Britons before he many left and marcial law was postument. The that country to wait for another cen; two tribunes, Marcus Antonius and tury before the hand of Rome would be stretched out to add them to the party led by Pompey were now face empire. In the meantime C's term to face with their greatest enemy, C. of office had been lengthened, and the C. immediately took measures to out the control of the company had the company of pager. The campaigns of the year 53 and the command of many more legions.

The campaigns of the year 53 and the command of many more legions.

52 were of vital importance. During therefore crossed the Rubicon and this period the Germans made their marched against Pompey, who withlast great struggle for independence.

C. siegnons suffered a reverse in Gaul, them eastward, where his name was a reverse which was superlive and treatest and whore his name was a reverse which was speedily and greatest, and where his great victories heavily paid for by the practical had been won. C. had reached annihilation of the Eburones. The Brindisi before Pompey and his army following year saw the final attempt had embarked, but had been unable under the great leader Vercingetorix. to prevent the embarkation. He now who at the head of the Arverni ro-e in turned his attention to Spain, which who at the head of the Arremi role in turned his attention to Spain, which revolt. Successful at first in driving he reached in June and had reduced away the German chieftain. C. by August. In that month he resuftered a severe check at Gergovia, turned to Rome and was made where he was obliged to raise the dictor, a post which he only occusiege. However, at Alesia he besieged the successful leader, and forced him consul for 48, and then set out for to surrender in spite of the attempts made to release him. Having conquered Gaul, C. could afford to be affect to tatack the army of Pompey. He first attempted to besiege the allowed them to retain their icinforcements marched down into the plains of Thessaly, and a battle plains of Thessaly, and a battle customs and manners, imposed a the plains of Thessaly, and a battle fixed tribute, and made Ganl into a was fought at Pharsalia, where note tribute, and made Gail into a was fought at Pharsalla, where province. Then he turned his attention to the affeirs of the Roman republic itself, where thines had been taking place which demanded his immediate attention. As has been pointed out previously the meeting of the Triumvirate in 56 R.c. had specified. C. was now appointed dictator fixed the policy to be followed by the

turned to Rome. Here he first put down a mutiny of the legions, and then crossed over to Africa, in order to crush the last memilers of the Pompeian party. In the great victory at Thapsus he practically annihilated the leaders of the party, and one of the generals, Cato, committed suicide. In the same year he was made dictator for ten years, and towards the end of the year sailed for Spain, to put down the sons of Pompey, who still held out there. The battle of Munda in the following year crushed that rebellion, and C. returned to Rome. On the 15th of March, 44 B.C., he was murdered in the senate-house at the foot of the statue to Pompey During the period that he had held the dictatorship, he had exercised his authority on the whole for the good of the people. He had not had recourse to any of the atrocious massacres of Marius or Sulla. When his enemies lay crushed at his feet, he had been noble enough to raise them to a position of equality with his supporters. He had put forward many schemes which were obviously for the well-being of the republic. He reformed the calendar, he proposed to make a digest of the Roman law. He enfranchised the Transpadanes. He put forward schemes for the draining of the Pontine Marshes, for the enlargement of the harbour of Ostia, and for the construction of a canal through the isthmus of Corinth. He was distinguished in every way; he was a great statesman, soldier, and orator. In addition he can claim a place in history as a brilliant mathematician, a jurist, and an architect, together with a very high position indeed as a writer and historian. His character as a man and as a states-man has led to much discussion. On the one hand, we find many his-torians holding the view that the creation of a policy, for want of a better name known as Ciesarian, was very necessary, that the tradition and method of government applied to the town Rome could not be equally applied to the Roman empire. the other hand, we find the view held by many that C., in overthrowing the constitution and traditions of Rome, destroyed liberty, and this view has much to be said for it. The open and obvious contempt with which C. regarded the traditions of Rome cannot be passed over easily. Not that he child from the womb by cutting attempted to destroy, but that by the through the walls of the abdomen and

he embarked on the Alexandrine War, a war which he brought to a success to the senate, he held up to open conful issue in 47. In the same year he tempt the greatest of Roman ideals, overcame the son of Mithridates, a Throughout the ages the name of the victory which C. commemorated in pagan C. has been held up to adthe phrase, 'I came, I saw, I conmiration. The dark and mediaval ages brought with them a regard for turned to Rome. Here he first put C. and Cusarism which amount to C. and Casarism which amount to here worship. The greatest name to them in the pages of history was that of the founder of the Roman empire. But with the Renaissance came a change in thought, C. no longer was regarded as the founder of an empire. but as the destroyer of liberty, and the names of the conspirators who overthrew him were held up to admiration. In this diversity of opinion it is impossible truly to appreciate his work and character without reference to the political ethics and manners of

his age. See Life by Froude. Cæsar, Sir Charles (1590-1642), a British Judge, was educated at All Soul's, Oxford, and entered the Inner Temple in 1611. He was appointed master of chancery, 1615-39, and judge of the court of audience, c. 1626-42. He paid James I. £15,000 for the

mastership of the rolls in 1639. Cæsar, Sir Julius (1558-1636), ah English lawyer, noted for his great generosity, was the son of Cesare Adelmare, physician to Queen Mary, and a descendant of the Italian dukes de' Cesarini. He was called to the bar in 1580; became judge of the Admiralty Court, 1584; Chancellor of the Exchequer, 1606; Master of the Rolls, 1614. He was a friend of Whitgift and of Bacon, and had a high reputation for integrity. He wrote a treatise on the Privy Council, and other papers.

Cæsarea: 1. Anct. name of Kaisarieh, a coast vil. of Palestine, 27 m. from Nazareth, 30 m. from Jerusalem. Founded by Herod the Great, a very important city often mentioned in the Bible. The ruins are surrounded by a low grey stone wall. Coasting vessels often put in as water is good and abundant, Hosnian colonists now have a settlement there. Cresarea Philippi, now Banias (Panens), vil. of Palestine, neur R. Jordon below Mt. Hermon, 29 m. from Tyre, 45 m. from Damascus. Founded by Philip the Tetrurch, 3 B.C. Prominent in time of the Crusades. 3. Anct, name of Cherchel, a seaport tn. of Algeria, 55 m. from Algiers. Ruins are still left. The port is shallow and exposed to N. winds. Near by are large marble quarries, and mines of silver, iron, and lignite. Pop. about 4000 (com. 8000). Anct. name of Jersey.

Cæsarean Operation, liberating a child from the womb by cutting

The name is derived from | kola nut. It may be procured from a that of Julius Cæsar, who is said to have been brought into the world in

this manner.

Cæsarion (47-30 B.C.), son of Cleopatra, who declared that Julius Cæsar was his father. Though this has been denied, it is said that Antony once said in the senate that Casar had acknowledged the relationship. Ιn 34 B.c. he received from Antony the title of king of kings, but four years; later he was put to death by order of Augustus.

Cæsium, a metallic chemical element usually associated with rubi-dium. It was the first metal discovered by spectrum analysis, and has since been found in the mineral waters of Frankhausen and Wheal Clifford. It is a silver white metal, inflames in air when heated, melts at 26°, boils at 670°, has a specific gravity of 1.85, and is poisonous to

vegetable life.

mentioned treatise.

Cæsura (a 'cutting'), a metrical rest or pause usually about the middle of a line, not necessarily coinciding with a grammatical stop. The word has been taken from the classics, i

and is most com Moverse after the or agare than one (

syllable with verses shorter than the decaof usage a need have none. A variety
In Greek a produces the best results,
best and it and Latin hexameters the
the fifth halvost frequent C is after
the same is any-foot (penthemimeral);
meter line of the used in the pentavariations may clegiacs. Of course
Die Metrik der Greeter. See Müller,
Cate, see Coffer. See Müll syllable verses shorter than the deca- where he was five times imprisoned

Caffa, see KAFTA. HOUSES. Calleine, Calleic (C.H., N.O.) is a vere the xanthine group. Acid. Caffeine in beverages in committee in the canthing the committee of the canthing th in beverages in commission augment etudy important. This its occurrence etudy important. This its occurrence as theine, which exiten use makes its to the extent of 3.2 pd sts in tea-leaves 1-5 per cent., in Paragraph reent., in coffee and beverages conclusive agraph.

strong infusion of tea in the following manner: The tannin is precipitated by means of lead acetate, the excess of which is precipitated by passing through it sulphuretted hydrogen. On filtration the liquid is evaporated down and neutralised with caustic potash, when on cooling the caffeine will crystallise out. The crystals are colourless, long, and silky, with one molecule of water of crystallisation. They are only slightly soluble in cold water, but very much in hot water or alcohol and in chloroform. The salis are decomposed by water, but the citrate, produced by adding caffeine to a hot solution of citric acid and evaporating, is widely used, having the same properties as caffeine. Caffeine is a product of xanthine, and they are both products in the breaking down of the nucleo-proteins of the plants, the final product being uric acid. In the human body uric acid is Cæsius Bassus, Roman lyric poet not produced by caffeine, so that there of Nero's reign; friend of Persius, is no danger to be feared from it whose works he edited, and whose by people with gouty predilections sixth satire is addressed to him Caffeine is primarily a stimulant. It (Schol. on Pers., vi.). Said to have lost stimulates the reasoning powers as his life in the evantion of Vasurius wall as others and programs sleen. (Schol. on Pers., vi.). Said to have lost stimulates the reasoning powers as his life in the eruption of Vesuvius, well as others and prevents sleep. a.D. 79. Quintilian (Inst. x. 1) praises Unlike alcohol, its action is not followin highly. Fragments of his works lowed by a sedative effect, and hence are in Corpus Podarum Latinorum, it may be termed a true stimulant. He is identified with the author of a lin medicine it is used as a heart stimulant. treatise, De Metris, of which fragalant, also as a diuretic. Caffere acid ments remain (ed. Keil, 1885). The is obtained by boiling with caustic Ars Casii Bassi de Metris (Keil, potash caffetannic acid, which ocalies to the artest of the carry in caffet and the carry of the carry in caffet and the carry of the carry Grammatici Latini, vi.) is not his, to the extent of 4 per cent, in coffee but chiefly borrowed from above berries. It crystallises in yellow monoclinic crystals.

Castraria, see Kappins. Castres, see Kappins. Caffristan, see KAFIRISTAN Caffyn, Matthew (1628-1714), an Armenian baptist minister. He was

om Oxford University for and became minister at

place, Horsham in Sussex,

Turks. It is usually made of woolles or silk material, and is white it colour, with a vellow flowering design. Cs. are frequently used as silts, by the Turkish court, to Christian ambassadors. The term 'caftan' is also applied to procurers of women.

Cagayan, a large prov. at the ex-treme N. of the island of Luzon, in the r cent., in coffee Malay Archipelago, the largest islant usy tea or mate, of the Philippines. It is extremely extend from the fertile, and rice (the staple food). sugar cane, cotton, coffee, and cinnamon are grown. C. is also the name remedy is a drop of castor oil adof the largest river of the island. ministered with a quill or a camel-Pop. of district is about 90,000. hair brush. Birds are more sensitive

Cage-birds. From the earliest times birds that are notable for their plumage, their song, or their interesting ways, have been kept in confinement as pets. The favourites among the songsters are the nightingale. blackcap, thrush, blackbird, skylark, woodlark, and starling; while the linnet, goldfinch, bullfinch, siskin, and canary are also popular. The last-named is one of the commonest C. in this country, and, though really a foreign bird, has become thoroughly acclimatised. Siskins and redpolls, and also linnets and goldfinches, have been made to draw their water and food in miniature buckets from wells beneath their buckets board. Birds have also had their eyes bleared ' with a hot iron to make them sing better. Needless to say, both these practices have been regarded as exceedingly cruel by all right-minded people. Of other British birds, the common jay and the jack-daw are often kept as C. for the sake of their entertaining ways and their powers of mimicry. There is a considerable trade in the importation of foreign C. into this country, and it has been estimated that no less than 50,000 of these are imported every year. They are more sought after for the sake of their plumage than of their song, though the canary, shama, American mocking-bird, Virginian American mocking-bird, nightingale, Peking nightingale, bul-bul, and bluebird, are all good songsters. Parrots are much in request as C., and parroquets and cockatoos are also kept, though the latter are somewhat noisy for the house. Of the parrots, the yellow-faced Amazon is the best talker. The greys from S. and W. Africa are not acclimatised at all easily; of the two species, that from W. Africa is the hardler. Care has to be taken in the feeding of C. The soft billed songsters, such as the thrush and the lark, should be fed on crushed hemp, bread-crumbs, and insects, and a spider is one of the best of tonics for The nightingale requires them. The highlingale requires special attention, being difficult to feed and rear properly. Some birds, such as the finches, linnets, and canaries, eat grain only, while others, such as starlings, redbreasts, and wrens, feed on insects only. Canary seed and rape-seed are chiefly used the grain-eating birds, and canary seed is the best food for all species of parrots. The ailments of C. are mostly due to excessive or otherwise improper feeding, combined with their lack of exercise in

confinement. The most universal remedy is a drop of castor oil, administered with a quill or a camelhair brush. Birds are more sensitive to draughts than human beings, and should never be placed in a window for that reason. Nor should they be kept in conservatories, or other places where the temperature is variable. Birds kept under bad conditions in this respect are always in bad health, and pulmonary troubles sometimes result. Epilepsy, due to overfeeding, constipation, and diarrhea are also common complaints. Especial care is necessary when the birds are moulting. A rusty nail in the drinking water is then a good thing at such times, and stimulating food should be given.

Gages have frequently been used in the past for the imprisonment of human victims. The philosopher Callisthenes was kept in an iron C. for seven months by Alexander the Great for refusing to pay him divine honours. Catherino II. of Russia imprisoned her wig-dresser for three years in an iron C. lest people should know that she wore a wig. Edward I. confined the Countess of Buchan and a sister of Robert Bruce in a similar way. The former, whose offence was placing the crown of Scotland on the head of Bruce, was placed in an iron C. on one of the towers of Berwick Castle. Similarly, Tamerlane made a public show of the Ottoman sultan, Bayazid I. Louis XI. confined Cardinal Balue, grand-almoner of France, in an iron C. in the Castle of Loches for eleven years. The bodies of the Anabaptist leaders, John of Leyden, Knipperdolling, and Krechting, were exposed in iron C. at Münster, West-phalia, in 1536.

Cagliari (anct. Carales) is both the cap, of the prov. of Cagliari and of the whole island of Sardinia. Distant 375 m. S. of Genoa by water, its fine harbour is situated in the centre of the southern coast of Sardinia, at the head of the Gulf of C. The course of its history is chequered. At first a Roman colony, it has been successively occupied by the Vandals (485 A.D.), Justinian (533 A.D.), the Saracens (12th century), the Pisans, the kings of Aragon (1326-1714), Austria, and the Duke of Savoy, who became King of Sardinia (until 1861). Whilst the mediawal town ren along the top the mediæval town ran along the topmost ridges of a hill running N. and S., the modern town has grown up on the lower slopes and along the coast. Strong breezes blow through the town in winter, but in summer the climate is African. The chief exports, whose annual value is £1,500,000 sterling, are zinc, lead, and salt (obtained from a lagoon to the E.).

barracks, and archæological dei. museum—the best in Sardinia—there are many buildings of great historic interest, including a domed church of the 8th century, the cathedral (built by the Pisans in 1257-1312), two great towers of the mediæval fortifications, one of which commands a splendid prospect, and a university (dating from 1764). The pop. of the commune in 1900 was 53,057.

Cagliari, Paolo, see VERONESE

PAOLO. Cagliostro, Alexander, Count de an arch - impostor of whose real namewas of his vicious propensities during his education at the monastery of Caltagirone, where he horrified the monks by narrating the adventures of im-Expelled from the moral women. monastery, he began by forging a will and committing a murder. For this latter crime he was imprisoned. On his release he inveigled a goldsmith, Marono, into paying away his money to discover a fictitious treasure. When Marono reached the treasure cave he was set on by six ruffians, hirelings of Balsamo, who beat him into insensibility. Dreading vengeance Balsamo went abroad, travelling, it is said, in Greece, Egypt, Arabia, Persia, Rhodes, and Rome. In Rome he met and married a beautiful girl, Lorenza Feliciani, who proved an astute confederate in her husband's trickeries. At the monastery Balsamo had acquired a smattering of chemistry and medicine, and later in Rhodes had proved a ready pupil to the Greek, Althotas, in the mysterious art of alchemy. Thus he is next found try and medicine, and later in Rhodes and a half old, and his wife, who was and multiplicity of his dupes seem in these sceptical days truly remarkable. but the upper classes, from whom his victims were drawn, were at that time ill educated, superstitious, and sensual. Thus they trusted him equally as the inventor of an in-valuable pentagon for abolishing

N. of the western lagoon, where there original sin,' or the preacher of a is a good fishing trade, stretches a fertile plain, which is, however, still cultivated in a very primitive fashion.

There is a transver to Quarte S. There is a tramway to Quarto S. as an advocate of altruism and a Elena, and two railways, including the practical philanthropist. But his main northern line, have their terquackeries were one by one exposed mini in C. Besides the modern cita- The Scottish physician to Catherine, at St. Petersburg, pronounced his cele-brated 'Spagiric food 'unfit for dogs; in Paris he was deeply involved in the affair of the diamond necklace and thrown into the Bastille; in England lawyers succeeded in confining him to the Fleet. Finally, after further degradations and compulsory wan-derings, this 'bull-necked forger' underwent a sentence of perpetual imprisonment at Rome for freemasonry. He died in the fortress prison of San Leone, whilst his wife found refuge in a convent. An excellent account of this prince of charlatans will be found in Carlyle's Mis-Giuseppe Balsamo, gave a foretaste cellanies. A work on C. was published in 1910 by Trowbridge.

Cagnola, Liugi, Marquis (1762-1833), an Italian architect, was a native of Milan, where stands his splendid triumphal Arco della Pace, of white marble. Like Palladio, his predecessor, he strove to imitate the simple grandeur of classical architecture, as may be seen in his Porta di Marengo and his chapel of St. Mar-

cellina, also at Milan.

Cagots, the name of a distinct and formerly outcast people living in the Basque provinces of the Western Pyrenees. The name is also applied to similar peoples in Béarn, Gascony, and Brittany. The origin of the C Some have declared is uncertain. them to be descended from the Visigoths, who remained in France after their defeat at Clovis in the 5th century. Their name is explained as a corruption of canis gothus (' Gothic dog '). Others have held them to be descended from the Saracens con-quered by Charles Martel, Most credence is now given to the belief art of alchemy. Thus he is next tound received is now given to the benefit touring triumphantly through Italy that they were estracised on account and Germany, posing alternately as of their leprosy, and have since thrown necromancer, physician, and free-off the disease. It appears that they mason. At Strasburg he grew rich were formerly compelled to wear a with the profits of his 'elixir of impeculiar dress, and to follow certain mortal youth.' The count would menial occupations. They were forced solemnly declare he was a century to enter the churches by special doors, and in the churches they and a han old, and his wife, who was a compared by a rail from the other an imaginary son who was a veteran worshippers. They were not even Dutch naval officer. The credulity allowed to walk on the high road with bare feet. There is no evidence to show that they ever used a separate language. At the time of the French Revolution they were given equal rights as citizens, and they have since become more or less merged in the general peasantry.

Caher, or Cahir, a tn. with trade

in corn and flour, in co. Tipperary, the Order of the Legion of Honour Ireland, 11 m. W. of Clonmel, beautil and a pension. He published an fully situated on the R. Suir, at the account of the journey, edited by foot of the Galtee mountains. C. M. Jomard. foot of the Galtee mountains. C. Castle stands on a rocky island in the river. Pop. 2500.

Cahors, the cap. of the dept. of Lot in South-western France, on the railway between Limoges and Toulouse, which lies 70 m. to the N. It has a tanning and wool-spinning industries | Zabara. on its antiquities, which include the cathedral of St. Etienne (12th century), the Maison d'Henri IV. (15th century), and the Pont Valentré over the Lot, a fine fortified 14th-century bridge. Pop. (1906) 10,047.

Caibarien, or Puerto de Caibarien, a tn. and seaport situated on the N. coast of Cuba, West Indies, 5 m. from Remedios. It possesses a good harbour, and railway communication with Espiritu Santo and Remedios. Pop. 8000.

of songs.

Calcos, or Cayos, or The Keys, a group of islands lying to the S. of the Bahamas, W. Indies, but placed under the government of Jamaica in 1874. The group consists of eight islands and several uninhabited rocks numbering about thirty in all. Great Key, the largest island, is about 30 m. long, and is the seat of govern-The inhabited islands are wooded and fairly fertile, but the climate is enervating. The chief industries are the exportation of salt, sponges, and turtle-shell, the cultiva-tion of sisal hemp (on West C.), and

tion of sisal hemp (on West C.), and fishing. The total area (including that of Turk's Is.) is 223 sq. m. Pop. 5350. Caillard, Sir Vincent Henry Penalver, b. 1856, was educated at Eton and R.M.A., Woolwich. Received commission in Royal Engineers in 1875. Held many appointments of distinction in foreign service. Received medal and bronze star in the call of the cal ceived medal and bronze star in Egyptian campaign, 1882. Director of London, Chatham, and Dover Railway. Publications on imperial, fiscal reform, and economic questions; also author of short stories and composer

Caillé (or Caillié), René (1799-1839), French traveller, was born at Mauzé in Poitou, the son of a baker. Having gone to Senegal while still a youth, he learned in 1826 that the Paris Geographical Society had offered 10,000 francs to the first traveller

who should reach Timbuctoo. Attired in Moorish dress, he set out from Kakondy in Sierra Leone on April

Cailliaud, Frédéric (1787-1869), a French explorer in Egypt and Nubia, was born at Nantes. A gold-smith by trade, he was led to examine the mineral resources of Egypt, and, in so doing, located the site of the trade in nuts, wine, and tobacco, and ancient emerald mines of Jebel He made important disbesides manufactures of farm imple- coveries in Siwah, his report thereon ments. Its importance rests largely leading to its annexation by Egypt in 1820, and he also made a notable journey of discovery to the White Nile, in company with Ibrahim Pasha's expedition, and published the results in his Voyage à Méroé au Fleuve Blanc (1826). He published other works of travel, and died at Nantes.

Caillin, also Kaillin, an Irish saint. around whose name many legends have clustered. He probably lived in the second half of the 6th century. Of The Ancient a peaceable nature. Book of Fenagh (about 1400) furnishes the materials of St. C.'s life. C. pro-cured a country for his kinsmen, the Commaioni, to live in. He converted Prince Ædhdubh, who gave him the fortress of Dunbaile, or Fenagh, in which to build his monastery.

Caiman, or Cayman, the given to several species of alligator found in Central and S. America. The C. differs in some points from the alligator of China and also of N. America, but only in minor details. Except for one Chinese specimen, the alligator is peculiar to America.

Cain, the first-born of Adam and Eve, who slew his brother Abel, because Abel's sacrifice was accepted and his was not. A curse was pro-nounced upon him for this deed, and he went to live in the land of Nod. A curse was pronounced on any one who should kill him, but there was a tradition that he was slain accidentally. A sect of the Ophite gnostics 130) were called Cainites, as held peculiar views of the (A.D. thev significance of Cain and Abel as types.

Caine, Thomas Henry Hall (b. 1853), novelist, was born at Runcorn, Cheshire, and was educated in the Isle of Man and at Liverpool. After studying as an architect, he became leader writer on the Liverpool Mer-cury, and gradually took up literary work. He went to London on the invitation of D. G. Rossetti, and wrote for the Athenœum, periodicals. Academy, and other After publishing Recollections of 18, 1827, and reached Timbuctoo on Rossetti, 1882; Sonnets of Three April 20, 1828, proceeding thence Centuries, 1882; and Cobwebs of across the Sahara to Tangier. He Criticism, 1883, he began a success-received the 10,000 francs, and also ful career as a novelist with The

Shadow of a Crime, 1885. His subsequent novels have included: A Son sequent novels have included: A Son of Hagar, 1886; The Deemster, 1887; The Bondman, 1890; The Scapegoat, 1891; Capt'n Davy's Honeymoon, 1892; The Manxman, 1894; The Christian, 1898; The Eternal City, 1901; The Prodigal Son, 1904; and The White Prophet, 1909. The Deemster was dramatised as Ben-my-Ches in 1890 The Manager in 1899. Chree in 1889. The Manxman in 1895. The Christian in 1898, The Eternal City in 1902, and The Prodigal Son A dramatic work, Mahomet, in 1905. was withheld from the stage at the request of the Turkish ambassador. The Bishop's Son (1910) and The Eternal Question (1910) have also been put upon the stage. 'Hall C.' was elected to the Manx House of Keys in 1901.

Ça ira ('It will go on '), a popular song of the French Revolution, so

named from its refrain:

Oh: Ca ira, Ca ira, Ca ira, Les aristocrates à la lanterne.

The words, by Ladré, a street singer,

were put to an older air, Le Carillon National. The song was prohibited by the Directory in 1797.
Caird, Edward (1835-1908), British theologian and philosopher, brother of John C., was born at Greenock, and was educated at Glasgow University and Balliol College, Oxford. After a brilliant course at the latter university, he was from 1864-56 fellow and sity, he was, from 1864-66, fellow and tutor of Merton College. In 1866 he returned to Glasgow and became professor of moral philosophy, and, in 1893, he became master of Balliol. In 1892 he had received the honorary degree of D.C.L. Through his pupils he has exercised a great influence on English philosophy, and may be considered to have founded a school of neo-Hegelianism. His works include: neo-Hegenanism. His works include. Critical Philosophy of Kant, 1889; Religion and Social Philosophy of Comte, 1885; Evolution of Religion, 1893; Evolution of Theology in the Greek Philosophers, 1904. Caird, Sir James (1816-92), Scottish

agriculturist, was born at Stranraer, Wigtownshire, and for some years engaged in farming in his native county. He came into prominence in the Free Trade controversy, publishing High Farming as the Best Substitute for Protection in 1849. He sat in parliament as a Liberal (1857-65), and in 1864 he induced the government to collect and publish all agri-cultural statistics of the country. He was chairman of a Royal Commission on Sea Fisheries (1863-6), and later director of the Land Department of the Board of Agriculture (1889-91), and was president of the Statistical

Society in 1880-81.

Caird, John (1820-98), a Scottish divine, was born at Greenock, and entered the ministry of the Church of Scotland in 1845. He preached a notable sermon before the queen at Crathie in 1855, afterwards published under the title The Religion of Common Life. In 1862 he was appointed professor of theology at Glasgow University, becoming vice-chancellor and principal in 1873. He delivered the Gifford lectures in 1892-3 and 1895-6, edited and published by his brother in 1900 as The Fundamental Ideas of Christianity. His other works include Sermons, 1858: Introduction to the Philosophy of Religion, 1880; and Spinoza. in Blackwood's Philosophical Classics, 1888.

Caird. Mrs. Mona, a well-known writer on social questions and authoress. Has contributed articles to the Contemporary Fortnightly, Westminster, and other literary journals. Amongst her novels are the Daughters of Danaus, 1896; The Wing of Azrael, 1889; and The Pathway of the Gods,

1898.

Cairn, or Carn, is a Celtic word signifying an artificial heap of stones. Prehistoric Cs. are usually sepulchral monuments or tribal cemeteries, like that of Tailten, and are found usually in some place of eminence. Cs. of the Stone Age, such as those of Maeshow in Orkney, or of New Grange on the Boyne, near Drogheda, are chambered, with a circular, oval, or oblong ground plan. The chambers, in which burnt and unburnt human remains are found, are small, that at Gavr Innis in the Morbihan measuring 9 ft. by 8 ft., but they are usually approached by a long passage, often covered with incised zigzag or spiral designs. The passage at New Grange is actually 63 ft. in length. The chamber roof is beehive-shaped in the British Isles, but in Scandinavia it consists of huge blocks resting on the side walls. Cs. of the Bronze Age are smaller and of circular construction. Besides the central cist of unhewn slabs, which is the actual place of burial, they often contain neolithic implements and tall, flat-bottomed and richly-ornamented bronze vessels. In mediæval times Cs. were often used as the meeting-place of tribes, and in 1225 it is recorded that the inauguration of the new chief, O'Connor, took place at the C. of Fracch. In a charter of 1221 the 'Carne of the Pecht's Fieldis' is mentioned as a boundary to the lands presented to the monks of Kinloss, and in the Highlands it was long the custom to pile small Cs. where the cossin of a famous man was ' rested ' on the way to the graveyard. Where stones were scarce, the

earthen barrow, as in England, replaced the cairn.

John Elliot (1823-75).political economist, began life in his father's brewery, but proceeded to Trinity College, Dublin, and gradu-ated in 1848. He was called to the Irish bar, but turned his attention to social and economic questions, and in 1856 became Whately professor of political economy at Dublin. Three years later he became professor of political economy and jurisprudence at Queen's College, Galway, and in 1866 he succeeded to the chair of political economy at University College, London. He belonged to the same school of thought as John Stuart Mill. His works include The Slave Power, 1862; Political Essays, 1873; and Some Political Principles of

Economy Newly Expounded, 1874.
Cairngorm Stone (Cairngorum)
(Gaelic carn, heap, gorm, blue), the
name of yellow and brown varieties of quartz, called after one of the peaks of the Grampians in Banfishire, Scotland, where it was found originally. This mineral occurs in crystals lining the cavities in highly-inclined veins of a fine-grained granite running through the coarser granite of the main mass. The stone is a special favourite in Scotland, and is used for various ornamental purposes, e.g. set in the lids of snuff-mulls, in the handles of dirks, in brooches for Highland costume, in pins and bracelets. Its value depends on transparency and colour. Quartz of yellow or brown is known as 'false topaz.' It is found also in Brazil, Russia, and Spain. The yellow used in jewellery is often called 'burnt amethyst,' or 'citrine.' The pale brown is also called 'smoky quartz,' and when almost black the stone is known as morion.' The colour is probably due to an organic pigment. The mineral is also found in the mountains of Mourne, Ireland, in Arran, and other parts of Britain, and very fine speci-mens in Switzerland and Colorado, U.S.A.

Cairns, municipality and seaport of Queensland on Trinity Bay, Nares co., 100 m. from Cooktown. It has a fine harbour, and is in a sugar district, with the Mulgrave gold-fields and Herberton tin-mine near. Pop. about 3500.

Cairns, Hugh McCalmont, Earl name which (1819-85), British statesman, edu-into C. The cated at Belfr Dublin. Callet 1844. M.P. for General under

sum be seen at Masr-Attorney Gen:
C., which lies a mile created Viscoun. Garmoyie and Larl to the S. of the modern town. Shortly
C., 1878. Lord High Chancellor in lafter A.D. 1176 Saladin crected the

the Disrael ministry, 1868. One of the finest parliamentary orators of the mest parmamentary orators or recent years, his best remembered speech being the 'Peace with Dis-honour,' after Majuha. See Earl Russell's Recollections: Memoirs of Lord Malmesbury, ii.; Law Journal, April 11, 1885; Times, April 3, 1885. Cairns, John (1818-92), a Scottish Presbyterian divine, born at Ayton, Berwickshire. He studied at Edin.

Berwickshire. He studied at Edinburgh (1834-41) and Berlin universities (1843-4), and at the Presbyterian Secession Hall from 1840. Minister of the United Presbyterian Church, Berwick-on-Tweed, 1845-76; professor of apologetics in the United Presbyterian Theological Hall, Edin-burgh, 1867; principal of the Theo-logical College Patrick 1879. C.

travelled different

times. Among his works are: Examination of Ferrier's Knowing and Being, and The Scottish Philosophy a Vindication and a Reply, 1856; Life of John Brown, D.D., 1860; Unbelief in the Eighleenth Century Unbelief in the Eighteenth Century, Cunningham lecture), 1880: False Christs and the True (criticism of Strauss and Renan); Liberty of the Christian Church, and Oxford Rationalism, 1861; Thomas Chalmers (Exeter Hall lecture), 1864; Outlines of Apologetical Theology, 1867; The Doctrine of the Presbyterian Church, 1876; Christ the Morning-star, and other Sermons, 1893. C. also contributed to various periodicals, and tributed to various periodicals, and wrote articles on 'Schottland' and Kirchliche Statistik ' in the second of Herzog's Realencyl-lopadie; on 'Infidelity' in Schaff-Herzog Encyclopadia; on Kant in eighth edition of Ency. Brit. See MacEwen's Life and Letters of Cairns, 1895; Scotsman, March 13, 1892; Masson's Recent British Philosophy, 1865. Masson's Recent

Cairo is the capital of modern Egypt and the most populous of African cities. Situated on the Nile, 12 m. S. of the head of the delta, and 148 m. E. of Suez by rail, it extends over an area of some 10 sq. m. Whilst the S.E. portion, including the cita-del, rises on the rocks of the Mokattam Hills, the greater part of the city is built over the alluvial plain in the river valley. C., the fourth Mohammedan capital, was founded in A.D., 968 by Jaurel Kaid, who called it

641, to 1e Roman founded

Cairo 198

north-eastern extremity. Sultan Selim overthrew their sovereignty in 1517, and from this date until 1798, when the city passed by conquest into the hands of the French, C. was the conservative metropolis of Turkish Egypt. Turkish forces combined, and once more was obliged to submit to Ottoman rule. In 1811 Mehemet Ali, the Turkish viceroy, by his massacre of During his reign, and still more under Ismail Pasha, who ruled from 1863, fresh rapid changes took place, were designed and new quarters thoroughfares opened out, and since the British occupation in 1882 improvements have multiplied thick and fast. It is to this occupation that C. owes its excellent water supply and drainage system. Formerly the deathrate was abnormally high owing to the prevalent insanitary conditions. A N. wind and the Nile floods help to moderate the summer heat: the mean temperature for the year is 68°. After the annual inundation has subsided, damp exhalations from the river keep the surrounding country ly rain falls. cotton weaving and printing factories in Bulak, and there are a few paper mills and gunpowder works, but, speaking generally, the only commercial importance of C. is that it is a depôt for the transit of goods of every variety from the Soudan, Upper Egypt, India, Persia, Asiatic Turkey, and also for many European manufactures. Place speaking Atabet, to the S.E. of the Esbekiya gardens, is the central point for the The fine bouleelectric tramways. vard Mohammed Ali runs S.E. as far as the citadel, whilst on the S.W. the sharia Kasr-en-Nil leads down to the Great Nile Bridge, which connects the

island Gezira Bulak, now given over to amusements, with the mainland. To the N. of the bridge are the large barracks of Kasr-en-Nil and the splendid . quities, e founded a tains the of Pharalibrary and Arab museum, opened in

citadel and a portion of the city walls. and is quite unique, whilst the latter Under the dynasty of the Mameluke encourages the preservation of the sultans the capital prospered, and is quite unique, whilst the latter Under the dynasty of the monuments of Arabic art, which were the town of Bulak was founded. which is now the flourishing port (and Atabet the Muski runs straight into suburb) of C., and which lies at its the Oriental city, which lies to the Atabet the Muski runs straight into E., whilst the western quarters are occupied by government European public buildings, luxurious hotels, and the residential flats and villas. In this eastern portion, besides servative metropolis of Turkish Egypt. the Arab city, there are the quarters Three years later it was wrested from of the Copts or Christians, of the Jews, these conquerors by the English and and of the Franks. The streets are upper stories due sky over-

ountains, the upper chambers of which serve often the Mamelukes, acquired a mastery as schools, are found at every corner. over the city, which became the The traveller will be confused by the capital of an independent kingdom, curious cries of the picturesque sellers of sherbet and fruit, by the endless stream of horses, camels, asses, and of human beings of every nationality and in every variety of the most bril-liant colours. Side by side with the keen-witted native Cairenes he will see Bedouins from the desert, fellahin from the country, negroes and Nu-bians, Armenians and Syrians, be-sides representatives of all European countries. He will see the easy merchant sitting outside his little shop, but he must frequent the markets or bazaars, that are held in the two-storied khans or warehouses, if he would appreciate the extent of the continuous buying and selling. If he chooses, the traveller may visit the Azhar University, established in 971, the great centre of Mohammedan in-tellectual life, whither two thousand students gather together annually from every eastern land. C. is a city of many churches, Coptic, Greek, Maronite, Armenian, Syrian, and Maronite, Armenian, Syrian, and Roman Catholic, besides mosques some of which display such purity of taste, such grandeur and withal simplicity of conception, and such deli-cate arabesque, that they rival the Spanish palaces as specimens of the finest Arab art. Among the most beautiful are the mosques of Tulun, Kalaun, Barbuk, Kait Bey, and especially that of Sultan Hasan (1358). The three gates of the city, Bab-en-Nasr, Bab-el-Futuh, and Bab-Zuweyleh, are splendid examples of the massive yet simple effects which the Mohammedan architects knew so well how to produce with the fine ashlar masonry. Beyond the eastern wall of the city lie the so-called tombs of the caliphs with their graceful networks and traceries, their shining minarets and gilded domes. They are really the mausolea of the Mamelukes, whom 1903, lie off the boulevard Moham- Mehemet Ali slew. It was the latter med Ali. The former contains some who built the alabaster mosque in the clients whose dome and slender 64,000 volumes of eastern literature, citadel, whose dome and slender

minarets are one of the picturesque landmarks of C., and in the centre of which is the celebrated Joseph's well. Within the last century the population of C., including its suburbs, Abbasia and Mataria to the N.E., and Helwan, 14 m. to the S., has more than trebled itself. The total in 1907 was 654,476, of which some 40,000 only were Europeans. The weird fascination of C. falls alike on European and Arab, but perhaps more on the former because of the very strange-Yet this is the ness of all he sees. extravagant description of an Arab, He who hath not seen Cairo, hath not seen the world; its soil is gold, its Nile is a wonder; its women are like the black-eyed virgins of Paradise; its houses are palaces; and its soft—its odour surpassing air is that of aloes wood and cheering the heart; and how can Cairo be otherwise, when it is the mother of the world?'

Cairo, city of Illinois, U.S.A., in S. at junction of the Mississippi and Ohio R., cap. of Alexander co., on the Illinois, Central, and other railways, about 130 m. from St. Louis, and 360 m.from Chicago. In 1858 C. was nearly destroyed by flood, now it is protected by 4 m. of levees. In 1888 a steel railway bridge was built across R. Ohio. C. is a shipping point for grain and oil, and trades in manufactured goods. In the Civil War it was a depôt for supplies. A marine hospital is there. It was the 'Eden' of Dickens' Martin Chuzzlewit. Pop. (1900) 12,500. Also the name of numerous post-villages and banking-towns in U.S.A.

Cairoli, Benedetto (1825-89), Italian statesman and soldier, was born at Pavia. In 1848 he served in the war against Austria. against Austria. He accompanied Garibaldi to Sicily in 1859, where he fought at Calatafimi, and was severely wounded at Palermo, and to the Tyrol in 1866, where he fought at Mentana. In 1870 he conducted the negotiations with Bismarck. In 1876 the Left came into power, and C., a deputy of sixteen years' standing, became leader of his party, and in 1877 formed a cabinet with a Françophile and Irredentist policy, on the fall of the ministry of Depretis, Nicotera, and Crispi. General indigna-tion was caused by his policy at the Berlin Congress, where Italy secured nothing, and the attempt of Passamente to assassinate King Humbert at Naples (1878) was the signal for his downfall, in spite of his personal bravery in defending the king. In 1879 the Cairoli-Depretis ministry

French occupation of Tunis led to his final downfall.

Caisson is, in engineering work, a chamber of sheet iron, or sometimes wood, used in laying the subaqueous foundations of piers of bridges, quay walls, or dams. One type consists of a strong timber platform, to which sides are attached. One or two of the lower courses of masonry are built on to this, whilst it stands near the shore. and it is then floated out and sunk over the site of the pier, already levelled by dredging or otherwise. Previous to this, however, the detachable sides are removed. The C. of another type is bottomless, but pro vided with a cutting edge which digs into the earth on the application of weight. When enough earth has been excavated to allow the C. to sink to the required depth, concrete is shot into it to make the foundation solid. If the soil is hard and stony a different structure is used. The lower part of the C. is turned into a water-tight compartment, whose basis is the river bed, which may be duly levelled by hand excavation. This air chamber communicates with the outer atmosphere by an air-lock, which serves as the means of entry and exit of both workmen and materials. Air is pumped down the metal column at a pressure corresponding to the depth below the surface of the water. When the men want to come out, the air of the lock is lowered to atmospheric pressure; in the same way it is raised to the pressure of the compartment when they want to return to work. The latter pressure is suffi-cient to counteract the tendency of the water to rise in the compartment. When the men have excavated down to a reliable stratum—the founda-tions of the piers of Forth Bridge reach down to the rock 75 ft. below high-water-their working chamber is filled with concrete through the shafts, and the bottomless C. is thus left embedded in the work. such a C. is floated out, plate-iron walls are fastened round the strong roof of the working compartment, to form an upper, open box, in which the pier or quay wall is built up as the C. sinks lower and lower. foundations of Brooklyn Suspension Bridge and Antwerp quay walls were both prepared by Cs. of this description. In recent times the process has been made cheaper by the use of screw-jacks to raise the C., once the solid rock or bed has been reached. It is then available for the construction of the superimposed portion. The lifting continues till the pier rises was formed, C. holding the office of above the water-level, when the C. is premier and foreign minister, but his ready for use elsewhere. Graving failure to foresee and intervene in the docks are often closed by means of

same as that without, and can then easily be floated to recesses at the side. That at Toulon has an area of 57,218 sq. ft., and is 62 ft. deep. Sliding or rolling Cs. are similarly used. In shipping a C. is a contrivance consisting of a hollow structure, provided with an air chamber, for lifting a vessel out of the water for repairs. It is sunk by being filled with water, hauled underneath the ship, and then raised by being pumped dry again. In military language a C. is an ammunition waggon.

Caithness

Caithness, a co. in the extreme N.E. Cattness, a co. in the extreme N.E. of Scotland, whose boundaries are Pentland Firth on the N., which separates the mainland from the Orkneys, the North Sea on the E., and Sutherland to the W. and S. The chief promontories of the bleak, rugged coast are Ord, Noss, Duncansby, Dunnet (346 ft.), the most northerly headland of Great Britain, and Hollyng The rivers Earss and and Holburn. The rivers Forss and Wick Water drain Lochs Shurrery and Watten respectively, and the Thurso empties itself into Thurso Bay. The highest mt. is Morven in the S. (2313 ft.). The island Stroma and the Pentland Skerries belong to this county. Wick and Thurso are the chief tns. C. shares a sheriff with Orkney and Shetland, and is represented by one member in parliament. In spite of the severity of the winter storms and the prevalence of northerly gales, the great belt of the Atlantic prevents excessive or continuous cold. The soil is poor and the moorland barren, yet good crops of barley, oats, potatoes, etc., are grown. The wool of the native sheep is in high demand, but the inhabitants live chiefly by the cod, lobster, and especially the her-ring fisheries. There is no difficulty in letting the salmon fishing of the Thurso or the excellent shooting preserves. Flagstones are quarried at Thurso and Halkirk. Though there are rocks of quartz-schists, the chief strata belong to the Old Red Sand-stone age. The 'stacks' or detached sandstone pillars by the cliffs are very impressive. Pop. (1901) 33,870.

Caius, see GAIUS. Caius, Dr. John (1510-73) (also known as Dr. John Kaye—C. being

ville Hall in 1529, and four years ville Hall in 1529, and four years Guayaquil, on the railway from later was elected fellow. After gaining Quito to Guayaquil. The modern his M.D. at Padua in 1541 and travelling in Europe, he returned to England, where he gave anatomy lectures in London. Made fellow of the College of Physicians in 1547, he the College of Physicians in 1547, he was, during his membership, nine bordering on Ecuador, crossed by the

closed iron or 'ship' Cs. These rise times president. In 1557 he built when the water-level inside is the a new court to his old college, en-In 1557 he built dowed it with several estates, and in 1559 became master, and as a staunch Catholic put his Protestant fellows in stocks for burning his vestments. He obtained permission for Caius College to have the bodies of two malefactors each year for dissection, and may therefore be regarded as a ploneer in the cause of anatomy. Edward VI., Queen Mary, and Queen Elizabeth all employed his services

as physician.

Caius College, Cambridge (pronounced Keys), was refounded in 1558 by Dr. John Kaye, who was a favourite physician of Philip and Mary. The name Gonville commemorates the original founder, who was rector of Terrington, Norfolk. His college was removed to the present site in 1353. The first court was rebuilt in 1868, so that the college is no longer entered by the Gate of Humility in Trinity Street. In spite of extensive alterations, this famous rate, together with the Gates as physician. famous gate, together with the Gates of Virtue and Honour, have all been preserved. Indeed the last has been spoken of as 'one of the most pleasing specimens of early Renaissance work in England. The stained glass of the chapel, which contains the splendid tomb of the founder, represents miracles by healing. Caius is still, as always, the great medical college of the university.

Caivano, com. of Italy in Campania, 7 m. by rail from Naples. (1901) 11,000.

Caix, Napoleon (1845-82), Italian philologist, was born and died at Boz-zolo, near Mantua. After studying at Cremona and Pisa, he became professor of ancient languages at Parma in 1869, and four years later he moved to Florence as professor of romance, languages, and comparative philology. His penetration and boldness thought set the mark of originality on all his works. These include Saggio sulla storia della lingua et dei dialetti d'Italia (Parma, 1872), Sulla Lingua del contrasto (Rome, 1876), Le Origini della lingua poetica italiana (Florence,

Cajabamba, tn. of Peru, S. America, dept. of Cajamarca, cap. of prov. of ., 350 m. from Lima. Also a town of cuador (Riobamba or Bolivar), cap.

This last is considered his

1880).

greatest work.

. Chimborazo prov., 85 m. from Guayaquil, on the railway from Quito to Guayaquil. The modern town dates from 1797, when the

Area, about 12,550 sq. m. situated on a small river which runs Andes. There are four provinces, C., Cajabamba, Chota, and Jaen. Pop. 442,500. 2. Town, cap. of above dept., 365 m. from Guayaquil. Ruins of ancient Peruvian architecture remain; the 'house of Atahualpa,' and the 'seat of the Inca' on Santa Apolonia Hill above the town. Near by are the warm, sulphuric, mineral baths, 'Baños del Inca' (Inca thermal baths), which are still frequented. C. is an important seat of trade and manufactures on the Pacific coast, producing textiles, straw hats, and steel. There are gold and silver mines near. It was prominent in Peruvian history. Pop. about 12,000.

Cajazzo, a tn. of Italy, in the prov. of Terra di Lavoro, situated on the Volturno, 11 m. from Capua. It is a hishop's see, and is notable for the ruins of the Roman Calatia.

5843.

Cajenut Tree is the name given to Melaleuca Leucodendron, a species of Myrtaceæ, and occasionally to Litsea californica, a species of Lauraceæ. M. leucodendron, a native of Asia and Australia, is a small evergreen tree. with spikes of white flowers, which is often cultivated in hothouses. aromatic oil, known as oil of Cajeput,

is distilled from the leaves.

Cajetan, Jacopo (Tomaso de Vio) (1469-1534), Italian theologian, surnamed C. from his bp., Gaeta (Caieta). He entered the order of St. Dominic, 1484, studying at Naples, Padua, and Ferrara. Professor of theology and philosophy at Brescia, Pavia, and Rome; general of his order, 1508. Leo X. made him a cardinal in 1517, sending him soon after as legate to Germany, to urge the emperor and Scandinavian kings to form a league Turks, and to against the bring Luther back into fellowship with the Church. 1523 legate to Hungary, recalled by Clement VIII.; 1527 prisoner at the sack of Rome. His works, Opera Omnia, were collected in 1639. They include translation of the Bible; Commentary on the Summa of Thomas Aq the Pope, Sorbonne.

Scriptis de Vio Cajetani, 1881; Ekerman, Dissertatio de Cardinali Caje-tano, 1761.

Cakile is the generic name of four cruciferous plants found in Europe and America. The tap-root is very long, the shoots are prostrate, the leaves fleshy, and the fruit is a two-jointed silicula in which only one seed comes to maturity. C. marilima is the common sea-rocket, C. americana the American sea-rocket.

Calabanga, or Calabangan, a tn. on the island of Luzon in the Philippines.

into the bay of San Miguel. weaving of hempen material and the manufacture of hats are the principal

industries. Pop. 6000.

Calabar: 1. The name given to tribes on the Guinea coast by Portuguese explorers in the 15th century.
2. Old Calabar, a seaport on the C. river above C. estuary, and the cap. of the eastern prov. of the British protectorate of Southern Nigeria, W. Africa. The pure negroes, the W. Africa. The pure negroes, the Efik, who migrated to C. about 1725, live in Duke Town in the valley, whilst the prin. buildings are on the The vegetation is luxuriant and palm oil and kernels are the chief export. Pop. about 15,000. 3. New Calabar, the name of a port and river 100 m. to the east.

Calabar Bean, or the ordeal bean of Calabar, is a species of Leguminosee. Pusostigma venenosum, found tropical Africa. It is a perennial climbing plant with a slender stem which attains a height of 50 ft.; the flowers are peculiarly formed and have a spurred keel. The dried seed was used formerly by the natives of Africa to test people accused of witchcraft, and it possesses very dangerous poisonous properties. It is of great value in ophthalmic surgery, as its application to the eye contracts the pupil, and frequently relieves pain; in tetanus and other nervous diseases it is also of value. The bean owes its importance to the presence of eserin. an alkaloid which it contains.

Calabash, the hard shell of the fruit of the C. tree, or bottle-gourd. It is a plant belonging to the genus Lagenaria and the order Cucurbitaces. The common bottle-gourd is a native of India, but the C. tree grows in W. Africa, tropical America, and the W. Indies. The shell of the fruit is extremely hard, and is made by the natives into all kinds of cups, basins, jars, etc., for holding liquids. The plant is a creeping one, and it has white flowers which produce this extraordinary fruit. Sometimes one may see a specimen of C. highly polished and elaborately carved. Of late C. pipes have been extremely popular. Calabria: 1. In Roman history is

the name of the modern prov. Leuce in the heel or south-eastern extremity of Italy. The peninsula was flanked W. and E. by the Gulf of Tarentum and the Adriatic Sea. From 272-266 and the Adriate Sec. From 172-200 B.C. there were six triumphs over the Tarentini, but Tarentum was not finally subdued till 209 B.C. In Strabo's time Tarentum and the colony of Brundisium (founded in 245 B.C.) alone retained their importance, probably because of their excel-lent harbours, although C. had once

boasted of thirteen populous cities. Danube, almost opposite Vidden. It In spite of the lack of rivers, its soil was fertile, and in ancient writers there is constant mention of its pastures, olives, vines, and fruit trees. There were famous dye-works at Tarentum. The great artery of traffic, the Via Appia, passed through this port, and was prolonged to Brundi-These places were also consium. These places were also connected by a coast road passing through Manduria, Aletium, Veretum, and Lupiæ. The name C. was transferred to the territory of the Bruttii on its subjugation by the Lombards in A.D. 668. 2. In modern times is the 'toe of the boot.' that is, the southwestern extremity of Italy. It has a correct 5819 as m and is hounded. an area of 5819 sq. m., and is bounded by the sea on three sides, and on the N. by the prov. of Basilicata. All the rivers are short, except the Crati, that waters the plain of Sibari, and this is 58 m. long. In the extreme N. Monte Pollino (7325 ft.) concludes the Apennine chain proper. The granite mountains of C. fall into two The northerly, of which Botte Donato is the highest peak, is terminated by the isthmus made by the gulfs of S. Eufemia and Squillace. Aspromonte (6420 ft.) belongs to the In summer the southern range. climate is very hot, and there have been some disastrous earthquakes. The terrible 'Messina' earthquake Rain of 1908 destroyed Reggio. torrents also cause much damage, especially now that ruthless deforestation has removed a natural The coast strips are protection. fertile. Olives, vines, fruit, and also wheat, rice, cotton, and tobacco are cultivated, but many economic disadvantages, such as the deficiency of railways in the interior, the lack of any middle class, and the preponderance of officials, have hitherto militated against industrial organisation. The inhabitants of the Albanian (France) railways respectively. colonies (estab. in the 15th century) still preserve all their national characteristics. Reggio di Calabria, Catanzaro, Nicastro, Calabro, and Monteleone are the chief towns. In 1901 the total pop. was estimated at 1.439.329.

Caladium is a genus of Araceæ, and consists of several species of S. American plants, cultivated on account of their spotted skins and variegated leaves. C. Seguinum, the dumb-cane, grows to a height of five Pop. 7500. Also the name of post-or six feet, and secretes an acrid villages in U.S.A. poison which swells the tongue and destroys power of speech. C. Sagittifolium, the Brazil cabbage, and C. esculentum, Indian kail, are both

is connected with Craiova by rail, and has a large grain trade. It is of historical interest, having figured in many wars. Pop. 7000.

Calaborra (anct. Calagurris), a city

on the l. b. of the Cidacos, in the prov. of Logrono, Northern Spain. The cathedral was first restored in 1485. Thousands of pilgrims visit the shrine at Casa Santa every year. Wine, oil, and grain are brought to the markets from the Ebro valley. In 76 B.C. Sertorius defended Cala-

gurris against Pompey.

Calais, a seaport in the dept. of Pas-de-Calais, Northern France, 185 m. N. of Paris by rail. The mediaval town is on an island, surrounded by the harbour basins and the canal which connects the navigable rivers of the district with the harbours. Its Place d'Armes contains busts of Cardinal Richelieu and Eustache de St. Pierre, who with six other notable citizens prevailed on Edward III. not to massacre the inhabitants when in 1347 they were forced to surrender. A 14th-century gateway is a relic of the Hôtel de Guise, formerly the guildhall of the English wool merchants, but presented to the Duke of Guise in 1558, when he recovered the city from the English. C. is the chief centre for the manuf. of lace and tulle, which is carried on in the quarter of St. Pierre. Its exports, most of which are sent to the British Isles, are wines, spirits, hay, woven goods, fruits, and lace, whilst cotton goods, minerals, and timber are its chief imports. During the five years 1901-5 the average annual excess of its exports (£8,000,000) over its imports was £4.243,000. More than 300,000 passengers annually cross the Channel between C. and Dover. The traffic is controlled by the South Eastern and Chatham and the Northern

Calais, a city of Washington co., Maine, U.S.A., on r. b. of R. St. Croix, 80 m. from Bangor. Several bridges across the river connect it with St. Stephen, New Brunswick. It is the S.E. terminus of the Washington County (St. Croix and Penobscot) Railway. C. has shipbuilding, lumber trade, foundries, and machine shops. Among its manufactures are cottons, woollens, calcined plaster, shoes. The Calais Academy is there.

Calais, Pas de, see PAS-DE-CALAIS. Calaisis, or the Pays reconquis, was an important tn. of Lower Picardy, a div. of North Picardy, which was edible. formerly a great military governors ship. The dept. of Somme and parts mania, situated on the l. b. of the of the depts. of Oise, Aine, and Passional State of the depts.

Calamander Wood (probably from Coromandel Coast), a very valuable cabinet-wood, like rosewood. only more beautiful and durable. Produced from the Diospyros hirsula or quæsita of the order Ebenaceæ, of the same genus as the ebony and persimmon trees. A native of S.E. India and Ceylon, it is becoming very rare. It yields veneers of exceptional beauty, and takes an exquisite polish. The colouring is largely chocolate and

fawn. One cubicft. weighs about 60 lb. Calamata, see KALAMATA Calamba, a small tn. on the island of Luzon in the Philippines. Fibre weaving is one of the chief industries, and fishing is carried on. Pop. 9500.

Calame, Alexandre (1810-64). Swiss painter and engraver, was born at Vovay, where his father was a stonecutter. He studied painting at Geneva under Diday, of whose school he later became master. He travelled for some time in England, Holland, Germany, and Italy, but all his best work represents his native Swiss scenery. He was thoroughly imbued with the spirit of his land, and succeeded in reproducing its glorious variety with truth and energy. His works are to be found in German and Swiss galleries, and there are two at South Kensington. Among the best, it will be sufficient to mention ' Mont Blanc, ' Lake of Brienz,' ' The Lake of the Four Cantons,' 'Lake Lucerne,' His etchings are numerous and well known, those of the scenery of Lauterbrunnen being the most famous.

Calamianes, a group of islands be-longing to the Philippines, situated midway between Mindoro and Pala-wan. They have an estimated area of 615 sq. m. The principal island is Calamian, which is about 35 m. long and 15 m. wide. The chief production is rice; great quantities of honey and wax are also produced. Total pop.

16,500. Calamine, a term applied to two ores of zine and an alioy: 1. Zine Carbonate, occurring in rhomboid crystals, white, yellow, brown, green, or grey in colour, sometimes translucent. It is found at Matlock, Mendip, Alston Moor, Leadhills, and at Wanlockhead in Dumfriesshire. 2. The paties by drops silicate of zine. The native hydrous silicate of zine, occurring in white, green, blue, or yellow crystals, and usually found associated with the carbonate. It is also called sm phite. C. is upainting of pc

and tin forme coating for iron utchsus.

green colour.

de-Calais cover the old province of the name to the common English Picardy. these plants is Labiatre. The Calamint is very much like the other herbs. thyme and sage, to which it is related. They are very hardy plants and easily grown in any ordinary soil found in gardens in Great Britain. There are two very small varieties, namely C. glabella and C. Alpina which make excellent subjects for a rock garden: the larger kind, C. grandiflora, does very well as a border plant. This latter variety flowers in the month of June.

Calamis (fl. 440 B.C.) was Athenian sculptor who made statues of Apollo, Aphrodite, and Hermes, as well as part of a chariot group, commissioned by Hiero, King of Syracuse. Archæologists cannot point to any work as incontestably his, but the bronze Delphic charioteer expresses so well his merits, as also his limitations, that there is every justification for the attribution of this masterpiece to C. Pliny speaks of his grace and delicacy, and these qualities at once impress the student as he observes the refined, almost girlish, expression of the charioteer's face and the charming simplicity of the straight folds of his long and flowing chiton. Certain conventionalities in the treatment of head and drapery further convince the student that the statue must be

the work of a predecessor of Myron, Polyclitus, and Phidias. Calamites are the fossil plants of most frequent occurrence, and are believed to belong to the Equisitacere. Many of them are gigantic in size for their group, reaching a height of 30 ft., and they are reed-like in appearance. The root termination is conical, the stems hollow-jointed, with whorls of branches which in their turn bear whorls of leaves and slender cones, and the bark is sometimes thin, sometimes thick. They seem to grow in clumps in damp clay soil or under water, and occur abundantly in the Devonian to the Jurassic strata. The leaves receive various names, e.g. annularia, asterophyllites and spheno-

phyllum. Calamus is the generic name of two hundred species of tropical palms native to Asia, Africa, and Australia. Most of these plants are leaf-climbers with long thin stems, and many have hooks growing from the under side which attach themselves to passing objects and prove very troublesome. The stem of C. Scipionum supplies Malacca cane, of C. Rotang, C. rudentum, C. tenuis, and C. verus rattan-cane, while C. Draco yields the 'dragon's-blood' of commerce.

ating for Iron utchass.

Calamy, Benjamin (1642-86), Pre-Calamintha, a genus of herbs giving bendary of St. Paul's, son of Edmund

C. the elder, the Presbyterian divine. Educated at St. Paul's and at Cambridge. Chaplain in ordinary to the king (c. 1677). His Discourse about a Doubting (scrupulous) Conscience appeared in 1683. It was dedicated to Jeffries. The Nonconformists accepted it as a challenge, replying to it by De Laune's A Plea for the Non-conformists, which cost its author his

life, in spite of C.'s intercession. The execution of Cornish broke C.'s See Biographia Britannica, health. 1784; Birch's Life of Tillotson, 1753; Calamy's Hist. Account of my

own Life, i., 1830. Calamy, Edmund (1600-66), English divine, b. at Walbrook, London; educated at Cambridge, where he joined the Calvinists; became chaplain to the Bishop of Ely. From 1626-36 he was a lecturer at Bury St. Edmunds, but later left the Anglican Church for the Presbyterian, becoming in 1639 minister of St. Mary, Aldermanbury, Here he officiated for twenty years, being throughout a supporter of the Royalist cause, and becoming chaplain-in-ordinary to Charles II. He was one of the Presbyterian representatives at the Savoy Conference in 1661, but was ejected from his living in the next year under the five Uniformity. He was one of the five compilers of Smectymnuus, 1641, a Bishop Hall's Episcopacy by Divine Right, 1640.

Calañas, com. of Andalusia, Spain, about 20 m. from Huelva, dist. of Valverde del Camino, producing

copper. Pop. about 9000.

Calandra is a genus of insects belonging to the Curculionidæ, or weevils. C. granaria, the corn-weevil of our granaries, is a little beetle which bores a hole in the grain and there deposits its egg, which grows into a destructive grub. C. oriza infests rice, and C. palmarum lives during its larva state in the pith of palms of

South America.

Calanus (Gk. Kálavos), an ancient Hindu philosopher, belonging to that sect known to the Greeks as Gym-According to Plutarch, nosophists. his real name was Sphines. He came into close contact with Alexander the Great, and spent some time at his camp in India. At Pasargarda he camp in India. At Pasargarda he became siek, and, at his own request, was burned alive on a funeral pyre. Just before his death he is reported to have said to Alexander, ' Ì shall soon see you again in Babylon,' a speech which is regarded as a prophecy in the light of Alexander's death at Babylon a few months later. See the Anabasis of Avrian.

Calappa, the typical genus of the Calappide, is a brachyurous decaped

crustacean with a rounded and crablike cephalothorax. The species have crested claws, and the abdomen is hidden under the thorax. Their geographical distribution is wide, and they are found in the warm seas. C. granulata is a crab which occurs in the Mediterranean.

Calarasi, or Calarache, the principal tn. of the dist. of C., Roumania. It is situated on a branch of the Danube, and has a good export trade in timber, wheat, hemp, and linseed. Pop. 11,024.

Calas, Jean (1698-1762), a French Protestant merchant, accused having strangled his son. Marc Antoine (who had probably committed suicide), to prevent his turn-ing Roman Catholic. He was condemned by eight judges of Toulouse to be broken on the wheel. fostered charge was by Roman Catholic societies, the White Penitents and the Franciscans. judicial murder caused an agitation in which Voltaire played a leading nart. His generous efforts got the sentence against the family annulled and resulted in the amelioration of the legal position of French Protestants. In 1765 the stigma was removed from C.'s name. See Voltaire, Sur la Tolérance; Coquerel, Jean Calas et sa Famille, 1858; Dryandar, Der Prozess Calas, 1887; Kreiten,

Voltaire, 1878.
Calascibetta, a tn. of Sicily, 15 m. from Caltanissetta, in prov. of Caltanissetta, on a hill opposite Castrogiovanni. Produces wine, silk, oliveoil. Pop. 9000.

Calasparra, a in. in the prov. of Murcia in Spain, lies about 40 m. distant from the anct. tn. and cap-called Murcia. Agriculture the prin-occupation of the inhabitants.

Calatafimi, a tn. in prov. of Trapani, N.W. Sicily, 8 m. from Alcamo, 32 m. from Palermo. Ruins of anct. Segesta are near; Garibaldi defeated the Neapolitans, 1860, about 2 m. from C. Pep. (1901) 11,500

Calatayud (eastle of Ayud), a tn. of Saragossa, Aragon, Spain, on R. Jalon, about 45 m. from Saragossa, on main railway to Madrid. In the older parts of the city there remain cave-dwellings in the rock. There are mineral springs near, stalactitic caverns, and the ruins of Martial's birthplace, Bilbilis. C. is of Moorish origin, the name, in Arabic, meaning 'Job's castle.' The exterior is imposing, but the town is now backward and purely agricultural. Pop. about 11.500.

Calathea is a genus of Marantacce consisting of perennial herbaceous plants which are natives of tropical America and W. Africa. The leaves W. Indies the tubers of C. Allouia, topee tampo, are used as a sub-

stitute for potatoes.

Calathus is a genus of coleopterous insects of the family Carabidæ, or ground-beetles. are The species generally black or brown, and C. cisteloides, a black beetle with black antennæ, red at the basal joint, and either red or black legs, is commonly found on English pavements.

Calatrava la Vieja, ruined fortress in Ciudad Real, Spain, on the R. Guadiana, 65 m. S.E. of Toledo. In the middle ages it was considered the key to the Sierra Morena. It was taken from the Moors in 1147. The military order of Calatrava was founded here in 1158. The ruins give their name to the surrounding district. known as the Campos de Calatrava.

Calauria, a small island in the Gulf of Ægina, Greece. Interesting historically, because the celebrated Greek orator Demosthenes committed suicide in the temple dedicated Poseidon in order to escape being taken by Antipater. This occurred

in the year 322 B.C.

Calaveras, co. of California, U.S.A., called after R. Calveras which runs caned after R. Caveras which runs through it to join R. San Joaquin, about 12 m. below Stockton. Area about 1080 sq. m. Bounded N.W. by Mokelumne R., S. E. by Stanislaus R. On the E. are the Sierra Nevada. C. has rich gold and copper mines, and contains one of the most famous and frequented groves of 'Sequoia gigantea.' Capital, San Andreas. Pop. about 11,000. Also a portvillage of Texas.

Calbayog, a tn. in Samar Is., situated on the R. Samar, and forms one of the group of Philippine Is. pleasant climate. Chief export hemp. Extensive rice plantations, and good

timber trade.

Calcaire Grossier, the name of a number of limestones and marls very rich in fossils. They developed in the Paris basin, and are thought to date back to the middle of the Eccene period. The limestones yield many varieties of fossil shells, and also a great number of mammalian remains.

Calcareous Rocks, Soils, Tufa, etc. (correct spelling calcarious, from Lat. calx, limestone): 1. Rocks that contain much lime, especially in the form of carbonate (CaCO₃), whether calcite or argonite. Usually such rocks are or aragonite. Usually such rocks are crustation. Such springs are some-aqueous, and those formed in the sea are composed of the fossilised remains of marine animals (brachiopods, corinoids, echinoderms, molluscs and the like). Many Palæozoic limestones are composed of shells, corals, etc., others of foraminifera.

are very beautiful, and most species These rocks are mostly of organic have a petaloid staminode. In the origin, the lime salts of sea-water being extracted by the living tissues of these animals and deposited in the form of carbonate of lime by shellsecreting membranes. Others are formed as precipitates by the evaporation of calcarious solutions, for example, stalactite and calc-sinter (calcarious tufa), and probably oblite (all chemically formed). A crystalline structure, varying from partially crystallised limestones to granular statuary marble, is produced by meta-morphic action. These are usually associated with the crystalline schists and the contact rocks developed by the action of heat given out by great masses of cooling granite to surrounding rocks. The existence of the carbonate in rocks can be discovered by applying dilute nitric or muriatic acid. Effervescence is thus caused through liberation of carbonic acid. Quicklime is obtained by calcining these rocks.

2. Calcareous soils are produced by disintegration of calcareous rocks. When these rocks are pure they yield rather barren soils of little agricultural value, as is the case in many chalk and limestone districts of Britain. They are thin and full of hard flint nodules, more adapted for pasture than agriculture. If the rocks contain lime mixed with clay so as to contain lime mixed with clay so as to form marl, with a little vegetable matter added, they form a good, friable, rather light soil. It is rather difficult of drainage, as soft lime retains water so readily, but yields it up by evaporation. After rain it soon dries on the surface, but rarely suffers from savere drought. Calcarents soils from severe drought. Calcareous soils, being light in colour, absorb heat slowly. They are often rich in phos-phates, but lack potash. Most soils are improved by a certain amount of calcareous matter. Peaty soils are often dressed with chalk. See Fream, Soils and their Properties, 1890; King, The Soil, 1900; M'Connell's Agricultural Geology, 1902; Hall, The Soil, 1910. 1910.

3. Calcareous Tufa, or calc-sinter (calc-tuff), also travertine, stalactite, onyx, marbles, are porous deposits of carbonate of lime, formed by the waters of calcareous springs. Water charged with carbonic acid can dis-solve carbonate of lime out of the rocks, and, when it emerges into the air, deposit part of it again as an inis used as a building-stone at Rome. similar to that adopted for the her-Other well-known springs are at baccous variety. Carlsbad, Bohemia; at Clermont in Calchas (\$\kappa_c\lambda_\chi_\chi_\chi_\chi_\chi}\$, the wisest sooth-Auvergne; and in the Yellowstone sayer who accompanied the expedi-region, N. America. Calcareous in-creptations often seen in carpens. region, N. America. Calcareous in-crustations, often seen in caverns in limestone rocks, are varieties of cal-careous tufa, and are called stalac-tites and stalagmites. When free from impurity the deposit is white or translucent, but often it is stained with other substances, and is yellow, brown, or grey in colour, and some-times variegated. It is a spongy, cellular, or concretionary structure, often banded, and showing rings of growth. It is found in a variety of forms, massive, tubular, botryoidal. or encrusting animal and vegetable remains, such as leaves, twigs, moss, nuts, or insects. It is often quarried for building purposes, being soft at first, but becoming hard and solid through exposure to the atmosphere. The temples of Paestum, Italy, were constructed of massive calcareous tufa. Calc-spar is carbonate of lime. rhombohedral in crystallisation. Cal-careous waters are called ' hard,' contain much carbonate and sulphate of lime, and form a deposit when heated.

Calceola, or Slipper Coral, a fossil belonging to the middle Devonian period. Very abundant in the limestones at Eifel on the Rhine in Germany. It derives its name from its

to a blunt point.

tion against Troy; son of Thestor of Mycenæ, or Megara. At his suggestion Philocetes was fetched from Soyros. Headvised the making of the wooden horse. In accordance with the oracle he died on meeting Mopsus (a wiser soothsayer) in the grove of Clarian Apollo, near Colophon. See Ovid, Metam. xii.; Homer. Iliad, i. and ii.; Virgil, Eneid, ii.; Strabo, vi.

and xiv. Calciferous, a name applied to a system of sandstones and limestones found in N. America.

Calciferous Sandslone, the name given to a division of the carboni-ferous system found in Scotland. It consists of two sub-divisions, the lower being called red sandstone and the upper cement stone. It is from the shale occurring in the latter rocks that the mineral oil produced in Scot-land is obtained. Volcanic rocks are also found in this strata.

Calcination, the metallurgical name for burning or roasting an ore. It can either be performed in an air blast to obtain the oxide, or without air to drive off any volatile constituent

such as sulphur.

Calcium (symbol Ca, atomic weight 40.1), a metal belonging, together with strontium and barium, to peculiar formation in the semblance gether with strontium and barium, to of the toe of a slipper, being conical, the class known as alkaline earth rather flat, and curved and tapering metals on account of the alkalinity of to a blunt point.

Calceolaria, a genus of plants inature, but in combination its wideoriginally from S. America, Mexico, and the West Indies, but now extensively cultivated by gardeners in this is country. The order is Scrophulariaceæ. There are two kinds of C., phate as gypsum and selenite, while the herbaceous and the shrubby. The the fluoride is fluorspar. Many other berbaceous regretals are experally rocks contain it as also degretate. their oxides. It does not occur free in bigger pots. This transplanting should excess of sodium is extracted by on until the seven-inch size pot is absolute alcohol. Compounds of C. attained, or at all events until they are widely used and very important can be planted out, in the month of substances. The oxide CaO, or quick-May. If the shrubby C. is kept grow-lime, is burning limestone and coal in lng in pots. it does best in a soil klins, the carbon dioxide being driven

amorphous, very infusible, and incandescent, being used with the oxyhydrogen flame in limelight. Mixed with water it forms C. hydroxide or slaked lime, the combination being accompanied by evolution of heat. Slaked lime when mixed with sand forms mortar. C. chloride occurs naturally and as a by-product from many manufacturing processes. It is extremely hygroscopic when anhydrous, and is used for drying gases (except ammonia, with which it combines). Bleaching powder, sometimes called chloride of lime, is Ca(OCl)Cl, and is obtained by the action of chlorine on slaked lime. Plaster of Paris is C. sulphate deprived of some of its water of hydration by heat. On adding water rehydration occurs, and selenite is formed and sets in a hard mass. C. carbide, used for production of acetylene, is produced by heating chalk with carbon in an electric furnace. C. sulphide is a phosphorescent substance used for luminous paint. It is prepared by passing H₂S over heated lime. The property of luminosity is probably due to an impurity, for it is found that pure C. sulphide is not luminous. The hardness of water may be classed as permanent or temporary. The first is due to the presence of C. sulphate and the second to C. bicarbonate. The latter may be removed by boiling the water or adding lime so that the insoluble carbonate is formed and by filtration can be removed. Hardness in water is explained by the fact that the sodium stearate in the soap is converted by the C. salt in the water into C. stearate, which does not lather. C. salts when volatilised in the flame of a Bunsen burner produce a brick-red colouration. From the Calculating Machines.

earliest times the need for mechanical aid in performing long calculations, which require no skill, but merely accuracy, has been felt, and various simple contrivances, such as abacus, have been invented to meet this want. More complicated ma-chines, providing for various kinds of calculation and degrees of accuracy, have been produced in this country since the 17th century, one of the earliest being 'Napier's Bones.' This appliance, which consisted of ten rectangular slips of wood, having the digits and their multiples on each of the four sides, was intended for use in multiplication and division. use was described by the inventor, Napier of Merchiston, in his Rabdo-logia, 1617, and was received with bу considerable enthusiasm mathematicians of the day. Shortly

off from the carbonate. It is white, of astronomy at Gresham College, produced his surveying chain, scale, logarithmic line, and line of numbers, the principles of which are still in use in the slide rule, much employed by engineers. The calculating machines invented by Pascal in 1642, Sir S. Moreland in 1666, and Leibnitz in 1671 were of little practical use. In the two former the addition of each place of figures had to be made separately, while the last, a model of which still exists at Göttingen, was intended for use in astronomical calculations. In 1775 a machine consisting of twelve ten-sided prisms, each face of which has a rack engaging in a toothed wheel, was put on the market by Viscount Mahon. The prisms were pushed in one direction for addition and the other for subtraction, and these operations were repeated for multiplication and division. Circular machines were invented in 1779 by Hahn and in 1784 by Müller, but the first invention of the kind of real importance was that made by Charles Babbage about 1822. His machine, which was intended to calculate numerical tables by method of differences,' was left uncompleted The invention of the at his death. arithmometer, by M. Thomas de Col-mar, about 1850, marked a great stride forward. This machine, which will add, subtract, multiply, divide, and extract square root, is easily operated by turning a handle, and is accurate and rapid in its results. The

> Several improvements on this machine have since appeared. Another advance was made by the production dealing

the first (1888),iventors

have produced variants of this type. The cash registers so largely in use at the present day are a development along the same lines. The electric tabulating machine in use in the United States, and the planimeter, for use in geometrical calculations, are examples of other kinds of calculating machines.

in Calculus, in mathematics, any systematic method of arriving at a solution of a series of problems. Specifically, the term is applied to the differential C., with which the integral C is closely associated. The method has its germ in certain calculations devised by Archimedes, the Syracusan mathematician, who lived in the 3rd century B.C. The processes referred to depended upon the comparisons of curvilinear figures or afterwards Edmund Gunter, professor curved surfaces with the inscribed

rectilinear figures or plane solids. The work of Archimedes was restricted by the poverty of symbolic methods, and it was only after the development of algebra by Vieta in the 16th century that the methods of Archimedes received any extension. Cavalieri proposed his method of indivisibles in 1635, and about the same time Roberval made the conception of what he called fluxions. The latter considered curves as formed by the motion of a point and obtained the direction of the tangent of the curve by a composition of the velocities of the point as determined by the nature of the curve. Newton and Leibnitz, both prepared specific notations, each for his own notions of quantity. That of Newton survived quantity. That of Newton survived until the beginning of the 19th century, but has since been generally discarded in favour of Leibnitz's system. The nature of the general problem may be apprehended by considering certain operations arithmetic to which an approximate answer only can be given. quantity represented by the symbols $\sqrt{6}$ may be found to any required degree of accuracy, so that the square of the fraction may be found to approach 6 nearer and nearer without actually reaching that number. This may be expressed by saying that 6 is the *limit* of the value $x \times x$, where x represents the square root to any number of decimal places. In the series $1, 1+\frac{1}{2}, 1+\frac{1}{2}+\frac{1}{2}, 1+\frac{1}{2}+\frac{1}{2}+\frac{1}{2}$, etc., the quantities as they progress approach the value 2 nearer and nearer, although the value will never reach 2 for any extent of the progression. The series of quantities 1, \(\frac{1}{3}, \frac{1}{3}, \fra of each to its predecessor, we get the alphabet and constants by the last letters of the alphabet and constants by the which gradually increase, but we out reaching the value? out reaching the value 1. crease, therefore, is not without lir and by taking two successive qua: ties sufficiently small, we may go ratio as near unity as we ples Suppose part of the circumference a circle to be cut off by a chord; ratio of the chord to the part of diameter cut off by it increases as

chord approaches the circumference. In the case of the base of an isosceles triangle being moved parallel itself towards the apex, the ratio, of course, remains the same, but the extra bulging out, as it were, of the circle means that the chord does not decrease in the same proportion as ow circles are and one may

· the circumfer-

being magnified and again

movement of the chord goes on. The nearer it approaches the circumference the more times will the chord contain the perpendicular. By taking a sufficient number of such small chords we can approach as nearly to the length of the whole circumference as we please. It is true that the greater the number of arcs, the greater the number of errors will be; but, as has been shown, the pro-portion of the error to its whole are diminishes, so that the total error becomes less and less. With reference to the problem of finding an arc of a known curve, it may roughly be said that the differential C. ascertains what is the form and value of the parts which are to be added; the integral C. adds them together and gives the result. The assumption made in what was formerly called the Infinitesimal C. is that all quantities can be subdivided into an infinite number of infinitely small parts, each part being less than any assigned fraction of the whole, and yet not equal to nothing. Quantities connected with curves may be said to be of two kinds, called constants and variables. Constants are quantities which are looked upon as always having the same magnitude, such as the radius of a circle or sphere, while variables are quantities which may have a number of particular values, as the co-ordinates of any point on the curve. Variables are also distinguished as being independent or dependent. A dependent variable changes according to changes in the value of another quantity, and is usually called a function of that quantity, thus, 2x, x^2 , a+bx are all functions of x. Independent variables

e ratio of to that of is usually thestudy 1 the first of these functions ie. Inte-

the converse of differentiation. The requisites for a study of the C. are a knowledge of algebra to at least the binomial theorem, plane and solid geometry, plane trigonometry, and the simpler principles of the application of geometrical methods to algebra and vice versa. A good modern text-book is Lamb's Intellectual Collegia. station that toughty ue taken as finilesimal Calculus.

ence being magnified and again Calculus, in medicine, a concretion magnified to ocular vision while the forming in any part of the body by

They are variously central core. classified according to their structure, composition. location. and Alternating or laminated calculi are composed of layers of different material superposed on one another. As regards position, calculi may be aural, formed of hardened secretions in the external auditory canal; nasal, in the nose passages; salivary, formed in the salivary ducts; bronchial, formed in the air passages; arthritic, or gouty calculi, formed at the joints; biliary, or gall-stones, in the gallbladder; renal, in the kidneys; vesical, In the bladder; prostatic, in the prostate; and uterine, in the uterus. The method of their formation may vary also. Organic calculi are those which have a nucleus of epithelium, blood, etc.; fatly, those which have a nucleus of fat; blood calculi, consisting of fibrinous matter and blood corpuscles: and chalky calculi, consisting of culcium carbonate and calcium phosphate usually with some foreign body as a nucleus. Urinary calculi are those formed in the bladder and urinary tract. They consist of concentric layers of substances crystallised out of solution and comented together by mucus, etc. The sub-stances may be uric acid and urates, or phosphates of calcium and magnesium, or mixed calculi of both urates and phosphates, or calcium carbonate, or organic substances carbonate, or organic substances found in the urine, as cystin, xanthin, and fibrin. The calculi are commonly called sand, gravel, or stones according to their size, and are usually the result of some derangement of the general health, often due to free living or lack of exercise. Secondary calculi are those formed as a result diseased condition of the urinary tract, and are, therefore, often met with in cystitis or inflammation of the bladder. Treatment varies with the composition of the concretions and the conditions which have set them up. The introduction of solvents is of value in some cases, but stubborn growths need to be crushed and removed by surgical operation. Calculi often cause little trouble to the person affected, but as there is a risk of them being drawn into narrow passages and thus caus-ing possibly dangerous obstructions, prompt treatment is usually advisable.

Calcutta, cap. city of British India and seat of the Presidency of Bengal, situated on the E. bank of the R. Hugli, being connected by a bridge with Howah on the W. bank, about 30 m. from the sea. The city, which is the tending the sea.

the accumulation of matter round a along the river, with excellent anchorage and a depth of water permitting vessels with a draft of 26 ft. to enter at all times. There are both wet and dry docks, the chief being the Ridder-pur, and the Upper and Lower Union The chief hindrance to Docks. navigation is formed by shifting sandbanks. The waterway of the Hugli is connected by the Nadiya R. with the Ganges, by the Sundarbans with the Brahmaputra, while the Midnapur Canal forms a highway for vessels to the W. The city, which is well drained and has an excellent water, gas, and electricity supply, and a tramway service, consists of a Euro-pean and a native quarter. The former, which lies E. of the 'maidan, or great park, is entirely western in appearance. The Chowringhee, or appearance. The Chowringhee, or residential portion, contains some splendid mansions. The commercial part of the city centres round the site of the old Fort William, and contains most of the government and other public buildings. These include the Government House, the High Court, the Town Hall, the Mint, the Cathedral, the University (founded 1857), drai, the University (founded 1857), and numerous museums, colleges, and churches. The present Fort William (1757-73) stands in the 'maidan.' The native city has some fine streets and several magnificent palaces of Indian potentates. C., from its position as the natural outlet of the Ganges and Brahmaputra valleys, has an enormous trade having control. has an enormous trade, having only recently taken a second place to Bombay as a commercial centre, and dealing with about a third of the total trade of India. The exports, which considerably exceed the imports, consist of jute, indigo, rice, where is liked a view patter. wheat, oil-seeds, opium, cotton, tea, sugar, coffee, hides, silk, saltpetre, matting, etc. The imports include cottons, linens, and silks, hardware and metals, coined silver, wines and spirits, and salts. The manufactures are mainly in the hands of natives. but there are also sugar refineries and cotton mills. The history of C., which cotton muis. The nistory of C., which takes its name from a vill., Kalikata, on the site, begins in 1686, when Job Charnock established a factory of the East India Company there. The old Fort William was erected in 1696. In 1772 C. became the capital of Bengal, and in 1773 of British India. Pop. (1911) 1,216,514.
Caldara see Carayaggio

Caldara, see CARAVAGGIO.

Caldas, Pereira de Souza, Antonio (1762-1814). Brazilian poet, was born at Rio de Janeiro, and received his education at the university of Coimbra, Portugal. He spent some time in So m. from the sea. The city, which France, and then went to Rome, is the terminus of numerous railways where he was ordained priest. On his and canals, has a port extending 10 m. | return to Brazil, he published a col-

in Spanish.

Caldas

madura in Portugal. Noted for its Lancashire, joining the R. Wyre at sulphurous and saline springs. 'Cal. Garstang Church. das' is a Spanish and Portuguese term for 'hot springs.'

Caldas da Reyes, a tn. in Spain in the prov. of Galicia, and 5} m. distant

from Pontreveda.

Caldecott, Randolph (1846-86), an English artist, worked in a bank, 1861-72, but always showed a taste 1861-72, but always showed a taste for art. His first sketches appeared in local papers, Will o'the Wisp, '1868, and 'The Sphinx,' 1869. He began his art career in London, 1872, with sketches for London Society and other periodicals. He became a student at the Slade School, and won the friend-ship of Mr. Armstrong of South Kensington Museum. C. became famous as illustrator of Washington Irving's works. 'Old Christmas' (selections from the Sketch-book) appeared 1875; Bracebridge Hall, 1876. In 1877 he illustrated Comyns North Italian Folk; 1879 Carr's Breton Blackburn's Folk;1883 Esop's Fables with Modern Instances. He also supplied designs for stories of Mrs. Ewing and Mrs. Locker. 1882 member of Institute of Painters in Memoer of institute of lameter in Water Colours, exhibiting there, at Grosvenor Gallery, and at Royal Academy. In 1876 his oil-painting, 'There were three Ravens sat on a Tree,' was in Royal Academy. He also modelled the bronze bas-relief, there exists Brittony. Wilcometer, Horse-Fair in Brittany. His greatest work was the series of coloured books for children, starting 1878 with John Gilpin and The House that Jack built, ending 1885 with Elegy on Madam Blaize and The Great Panjandrum Himself. See Blackburn, Ran-dolph Caldecott, Personal Memoir of his Early Life, 1886. Calder, Sir Robert (1745-1818), a

lection of Sacred and Profane Poems; length 40 m. 2. In Lancashire, joining the Ribble near Whalley. Caldas da Rainha, a tn. 47 m. N. of Cumberland, flowing into the Irish Lisbon, and lies in the prov. of Estre-Sea 10 m. S.E. of Whitehaven. 4. In

> Calderari, Ottone, Count (1730-1830), Italian architect, b. at Vicenza. He formed his style on the model of Palladis, and imitated him with great success. Among his chief works were the palaces of Bonini, Loschi, Cordellina (1776), which is one of his best productions, and Antisola at Vicenza, and the seminary at Verona, which is generally acknowledged to be his masterpiece. He was an associate member of the Institute of France, and published a treatise on architecture. His plans were published posthumously (1807-17) by Diedo as Opere di Architettura. Died at Vicenza. See his Life and Works (in French)

by J. le Breton, 1804. Calderon de la Barca, Don Pedro (c. 1600-83), Spanish poet and dramatist, born in Madrid, of a noble family; educated at the university of Sala manca and showed great precocity, producing a play, El Carro del Cido (The Chariot of Heaven) at the age of thirteen. He seems to have served with honour as a private soldier in several campaigns in Italy and the Low Countries during 1623-29, and having already become famous as a dramatist, was invited to the court of Philip IV., and made a knight of the Order of St. James about 1636. He produced an enormous number of plays of all kinds till about 1652, when he entered the church and be-came a canon of Toledo, thereafter confining himself to works on sacred subjects. He gained great preferments in the church, becoming a chaplain to the king in 1663, and later superior of the Congregation of San Pedro. As a dramatist, C. ranks second to Lone de Vega, whom he excelled in moral British admiral. He entered the navy | depth and purity and grace of expres-British admiral. He entered the navy depth and purity and grace of expres-in 1759, and was present at the battle sion. He fell far below Lope in inven-of St. Vincent (1797), on which occa-tion and ingenuity, and his work sion he was knighted for bringing suffers from his disregard of conven-home dispatches. In 1804 he was tional dramatic rules, his brilliant promoted to the rank of rear-admiral; imagination leading him into ex-in the following year he was stationed travagances. The lofty moral stan-off Cape Finisterre to intercept the dard of his plays and their refined French and Spanish fleet, fleeing clearness of language made them a before Nelson from the West Indies, valuable influence in an age when the C. succeeded in capturing two Spanish drama was beginning to suffer from ships, but was outnumbered, and the lasciviousness and floridness of retired to Brest. He was tried by Lope and his school. His great fault court-martial, and censured for an isalack of insight into human nature, error of judgment. He retired from but his plots are managed with such active service, but rose to the rank skill and spirit that this defect is not of admiral in 1810. immediately apparent. While his Calder, River, the name of four plays were very popular at court, rivers in England: 1. In West Riding, they had qualities of simplicity and Yorkshire, rising near Burnley and precision of diction which rendered joining the R. Aire at Castleford; them intelligible to the lower classes

as well as to educated audiences. His best general plays are: El Manico Prodigioso, a religious drama somewhat reminiscent of Faust, and probably the best known in this country, part of which has been translated into English by Shelley; La Vida es Sueño (Life is a Dream), a philosophical play which runs the former very close in its continental reputation; El Principe Constante (The Constant Prince), an historical drama on the subject of Prince Ferdinand of Portugal, which, together with the former, has been translated into German by Schlegel; El Alcadede Zalamea: El Divino Orfeo; El Purgatorio de San Dirino Orfeo; El Purgatorio ae San Patricio, another religious play; La Dama Duende (The Fairy Lady), a 'cloak and sword' play; El Medico de su Honra (The Physician of his own Honour); El Pintor de su Deshonra; and El Mayor Monstruo los Zelos (No Monster like Jealousy), trappedica of passion Rut, in the tragedies of passion. But in the opinion of many critics his sacred plays, Autos Sacramentales (6 vols.), contain his best work. His collected plays were first published at Madrid in 1689, and later editions have been issued at Madrid in 1759-60. There is a good German translation by Lorinser (1882) and English translations of different plays by Denis MacCarthy (1853-73), Edward Fitzgerald (1853 et seq.), Archbishop Trench (1856), and N. Maccoll (1888). For critical works on Calderon see the works of Arch-bishop Trench and Miss Hassell (in the Foreign Classics Series), in English, and of Schack, Schmidt, Fastenrath, etc., in German. Calderon, Philip Hermogenes (1833-

98), an Anglo-French artist, born at Poitiers, of Spanish parentage. He studied in Paris under Picot, and in London. He exhibited at the Royal Academy from 1853, and at the Paris exhibitions of 1867 and 1878. He was elected an Associate of the Royal Academy in 1864, Academician in 1867, and Keeper in 1887. His subjects were chiefly historical, his most important works being 'The Reunciation of St. Elizabeth of Hunsary,' 1891; 'Her Most High, Noble, and Pulssant Grace,' 1866 (gold medal 1867); 'The Gaoleer's Daughter,' and 'The Proposal.'

Calderon Serafin Estébanez (1801-67), a Spanish writer, celebrated for his brilliant sketches of Andulasian scenes and manners, which he contributed to the Carlas Españolas, a weekly Madrid magazine. Canovas del Castillo, C.'s nephew, wrote his biography, called El Solitario y su Tiempo, which he published with his writings in 1883.

Calderwood, David (1575-1650), a Presbyterian divine and eccles. historian, born at Dalkeith, Midlothian. He was educated at the Edinburgh University, and became minister of Crailing, Roxburghshire (1604). He opposed the designs of James VI. to opposed the designs of James VI. to introduce Episcopacy into Scotland, and was tried before the Scottish Parliament and banished. He resided in Holland from 1619-25, where he wrote extensively on controversial subjects, and on his return to Scotland collected material tor his History of the Kirk of Scotland (1678). He also wrote Allare Damascenum (1621), and took part in drawing up the Directory for Public Worship in Scotland. Consult the Life by T. Thomson prefixed to the History, printed by the Woodrow Society in 1842-5.

Calderwood, Henry (1829-97), a Scottish minister and philosopher, educated at the Edinburgh University and Theological Hall of the United Presbyterian Church. He was appointed examiner in philosophy, Glasgow, 1861; professor of moral philosophy, Edinburgh, 1868, and chairman of the first School Board of that city, 1873-7; author of Philosophy of the Infinite, 1854; Relations of Mind and Brain, 1879; Evolution and Man's Place in Nature, 1893. Consult the Life by his son (1900).

Caldicott, Alfred James (1842-97), an English musician.

Caldicott, Alfred James (1842-97), an English musician. He was born at Worcester, where he became a chorister at the cathedral; studied music at Leipzig, and on his return to England was appointed organist of St. Stephen's, Worcester, 1865-82; professor at the Royal College of Music and Guildhall School of Music, 1890-2. He conducted at the Prince of Wales, 1889-90, and the Comedy Theatre, 1893; composed operettas and glees, including The Widow of Nain, 1893.

Caldwell. This name occurs in many

Caldwell. This name occurs in many parts of the U.S.A. There is a city of that name in Kansas; a co. in Kentucky; a parish in Louisiana; a vil. near New York; and a tn. near Texas. Caldwell. Sir James Lillyman (1770-

Caldwell, Sir James Lillyman (1770-1863), a British general. He served as a cadet in the East India Company, 1788; joined the Madras Engineers as an ensign in 1789; and took part in the actions against Tippu, 1791-92. He acted as chief engineer of Madras in 1816, and rose to the rank of general in 1854.

Caldwell, Robert (1814-91), an Anglican coadjutor bishop of Madras, born near Antrim. He was sent out to India by the London Missionary Society, but joined the Church of England, and was consecrated bishop of Tinnevelly as coadjutor to the bishop of Madras in 1877. He wrote

a Comparative Grammar of the and to Oban and Ballachulish. The Dravidian or S. Indian Family of gross receipts for the year 1910 were Languages, 1856; and assisted in a \$4,621,807, and the working expenses Tamil translation of the Prayer Book, 1842-72; and the Bible, 1858-69. See

Reminiscences, 1894. Caleb, the son of Jephunneh, of the tribe of Judah, and one of the spies appointed by Moses to explore the land of Canaan. C. and Joshua, the son of Nun, were the only spies privileged to enter 'the land flowing with milk and honey,' for the other ten spies brought back an unfavourable report, and caused the children of Israel to rebel. They acknowledged that the land 'flowed with milk and honey,' but they declared that the cities were well protected and that the people were of giant-like pro-portions. C. and Joshua were anxious to fight their way to Canaan, with the result that they were spared to see the event accomplished. C. received

Hebron and its district as his portion. Caledonia, the ancient name of that part of Scotland lying N. of the Firths of Clyde and Forth. The term is still used in poetry for the whole of Scot-

Caledonia, New, see NEW CALE-DONIA.

Caledonian Canal, a chain of lakes, united by artificial canals, which stretch N.E. and N.W. across Scotland, connecting the N. with the Irish Sea. It traverses the Great Glen of Albin, through the counties of Inverness and Argyll, from Moray Firth to Loch Eil. The lakes are Beauly, Ness, Oich, Lochy, Eil, and Linnhe. The total length of the canal is nearly 62 m., the canals being 23 m. long. The work of cutting these channels was begun in 1803, under the supervision of Telford. The canal was opened for navigation in 1823. but the work was not completed till 1847. The average depth of the artificial channels is 17 ft., breadth at the surface being 120 ft., and at the bottom 50 ft. The total cost of construction was £1,311,270. The canal enables vessels to avoid the dangerous route via Pentland Firth and the Hebrides, and is chiefly used by fishing craft and tourist steamers.

Caledonian Railway. The company was formed in 1845, amalgamated and absorbed the Scottish Central and Scottish North-Eastern railways,

the and to Oban and Ballachulish. The £2,478,705. The authorised capital, including loans, is £58,881,850, and the dividend 3½ per cent.

Calembour, or Calembourg, a play upon words, based upon the difference in meaning of words pronounced alike, in great favour among the French wits of the 18th century. The name is said to be derived from an abbot of Kahlenberg, an amusing personage, or a teller of amusing anecdotes, in old German tales, or possibly from a count of Kalenberg, who was notorious for his amusing blunders in speaking French at the court of Louis XV.

Calenberg, a dist., including the tn. of Hanover, lying in the S.E. of the prov. of Hanover; formerly a principality in the Duchy of Bruns-

principality in the Duchy of Brunswick. The name is taken from a castle near Schulenberg. The district is watered by the Rs. Weser and Leine, and has an area of 1050 sq. m. Calendar (from Lat. Calends, or Kalends), a means of distributing time with respect to its natural divisions in periods for the purposes of civil life. The most obvious and most natural of all divisions was that of the day a period marked out by of the day, a period marked out by the diurnal revolution of the earth on its axis, and the alternation of light and darkness. The solar year which completes the circle of the seasons was the largest division. Whilst the period from the new moon to new moon marked out the month. The ancient Egyptian year consisted of twelve months of 30 days, together with five supplementary days. Calculating their year in this way they lost one complete day in every four years, so that in the course of time they caused a complete revolution of the seasons. The Greeks divided their month of 30 days in three equal divisions, a method which revolutionary France at a later date tried to follow. The Roman days of the month was calculated backwards from three fixed periods. The Calends, the Nones, and the Ides. The Calends was always the first day of the month, the nones always the ninth day before the Ides, and the Ides in the middle of the month either in the 13th or 15th. The method of calculation was 15th. The method of calculation was as follows: The days between the Calends and the Nones were the days before the Nones, the days between the Nones and the Ides, the days before the Ides, and the days between the Ides and the end of the month, the days before the Calends, and in the calculation of the day of the month, the days before the Calends, and in the calculation of the day of the month, the days were counted. and Scottish North-Eastern railways, calcular and the Nones were the Captogether with a number of small lines; before the Nones, the days between the Sone, and obtained possession of the Forth and Clyde Canal and the Monkand Canal in 1867. The total length of line is 10801 m. The main lines run from Carlisle to Aberdeen the month, the days were counted via Stirling and Perth, Edinburgh to Glasgow, Greenock, and Gourock, every civilised state is borrowed from

to Romulus, consisted only of ten months, which began with March and ended with December. This, howended with December. This, how-ever, only allowed for 304 days, and no known arrangement seems to have been made for the remaining days. Under Numa two additional months were added to the C., one, January, at the beginning of the year, the other, February, at the end. Ultimately this was changed so that the two additional months fell at the beginning of the year. All the months consisted of 29 and 30 days alternately, so that the year now consisted of 354 days. which was increased to 355, from the superstitious belief of the luck of odd numbers. Still the year was over ten days short of its correct period, and an additional month was intercalated in February every two years. month, which consisted alternately of 22 and 23 days, made the year one day too long, and additional means had to be adopted to correct this mistake. The length of the inter-calated month does not appear to have been regulated by any fixed principle, with the result that it came to be a weapon of some effect in the hands of the pontiffs with whom the regulation of the C. rested. They curtailed the year in order to spite their enemies, they lengthened it in order to benefit their friends. By the time that Cæsar became the dictator of Rome they had reduced the C. to chaos, and one of his first steps was to attempt, successfully within limits, the reform of the C. By the year 46 B.C. there was a difference of three months between the civil Roman year and the astronomical year. With the help of Sosigenes, an astronomer from Alexandria, Cæsar fixed the average length of the year at 365† days. Every fourth year was to have 366 days, the ordinary years containing only 365. The civil year was to be regulated by the sun, the intercalary month was abolished, and in order that the days of the year should be properly restored 67 days were inserted in the current year, which consisted of 445 days, the last year of the era of confusion.

Year of the era of confusion.

The first year of the Julian C. was 46 B.C., or 708 A.U.C. The number of days in the months of the Julian C. were 30 and 31 alternately, with the exception of February, which was to have, in ordinary years, 29 days, and in leap years 30. This order was only UBset in the time of Augustus. Why upset in the time of Augustus, who named the eighth month of the year after himself, and in order that it should have the same number of days as the seventh month, named after the great Julius, took one day from

that of the Romans. Originally, it | February, and decreed that in future would seem, the Roman C. as ascribed February should in ordinary years to Romulus, consisted only of ten have 28 days, and in leap years 29 months, which began with March and In order also that three months of 31 days should not come together, he decreed the alteration of the number of days of the four last months of the year as follows: September, 30; October, 31; November, 30; December, 31. They had previously been: September, 31; October, 30; November, 31; December, 30. The pontiffs, who still had charge of the C., made the mistake of allowing one leap year every three years, instead of every This mistake was discovered and corrected during the reign of Augustus, who ordered the intercalat-ing of the additional day to be dropped until the error had been corrected. The Julian C., although a vast improvement on the older method of calculating the year, yet made the year some 11 minutes 14 seconds too long. Gradually this came to be recognised, and by the 16th century the C. was some ten days wrong. Already ideas had been put forward for its correction. At the Council of Nicea, the vernal equinox, which fell on the 25th of March in the year 46 B.C., fell on the 21st. Efforts had been made by astronomers to correct the fault, but it was not until Pope Gregory XIII. took up the matter that the fault was corrected. By that time it had been made obvious that the error amounted to three days in 400 years. Gregory issued a bull by which the ten days, which represented the difference between the date of the equinox in 325 and in 1582, were annulled, and Oct. 5th was recognised as the 15th. In order also that the fault should not again occur, it was ordained that the centurial years should not be recognised as leap years, save where they were divisible by 400. Thus 1600 was a leap year, 1700, 1800, and 1900 were common years, and 2000 will be a leap year. This method of calculating the year was called the Gregorian C., new style. It was promulgated by a bull, and found immediate acceptance in Spain, Portugal, and parts of Italy. adopted the Gregorian C. in the same year. Naturally enough, the proposal year. Naturally enough, the proposal of the Catholic Church did not find immediate acceptance in the Protestant countries. Scotland adopted the change in 1600, making also Jan. 1 the beginning of the year. The greater number of the German states adopted the new style about the end of the 17th century. England, held back to a large extent by vulgar and ignorant prejudice, did not adopt the new style until 1752. For a long time she had probably found it inconvenient to calculate her chronology

quated. The Calendar (New Style) Act was passed in 1750, and the difference, which amounted to eleven days, was rectified by calling Sept. 2 Sept. 14, 1752. The first day of the year was also changed from March 25 to Jan. 1. The Bill was not passed without considerable outcry from the mob, who went about crying for the restoration of their eleven days. The Greek Church and the states belonging to that church still calculate by means of the old method, and are now about 13 days behind the rest of

Europe in their chronology.

Hebrew calendar.— The Jewish
year consists of 12 or 13 months, according as to whether the year is ordinary or embolismic. The year is lunisolar, and the date is calculated back to the creation, which is computed as having taken place 3760 years and 3 months before the beginning of our Christian era. The ordinary year has only 354 days, but the embolismic 384; the embolismic year is obtained by the intercalation of a month of 29 days, called Veadar. This intercalated month occurs seven times in a cycle of nineteen years, and readjusts the Jewish year with the solar year. The day is held to begin with the sunset, but in reality the day with the sunset, but in reality the day begins always at 6 p.m. and continues for the successive 24 hours. The hour is divided into 1080 equal parts, called halequein, each of which heled is equal to 3½ seconds. The Jewish month consists of 29 days, 12 hours, 44 minutes, 3½ seconds. The names of the Jewish months are Tishri, Hesvan, Kislev, Tebet, Sebat, Adar (Veadar in embolismic years), Nisan, Yiar, Sivan, Tamuz, Ab, Elul. Each of the months has 30 or 29 days, alternatively. The Jewish New Year's Day is the 1st Tishri, which falls between Sept. 5 and Oct. 5. In 1912 the 1st Tishri fell on Sept. 12, the Jewish year being A.M. 5673.

The Mohammedan calendar.—The era of the East, or the era of the Hejira, is dated from the first day of

Hejira, is dated from the first day of the month preceding the flight of Mohammed from Mecca to Medina. The era therefore began on July 16. 622. The year is purely lunar, and composed of twelve lunar months, which contain 30 and 29 days respectively. The years are divided into exceptles of thirty years, nineteen of which are ordinary and eleven of which are ordinary and eleven of which contain one extra day added to the last month of the year. Obviously, with such a system the vere numbered as the fourth, third, months are not kept in any way to etc., day before the Nones; those between the course of about 32; Ides as before the Ides, and those after the seasons in the course of about 32; Ides as before the Cs. of the following tively. The years are divided into

by means of a system long given up | years. The Mohammedan year begins by Western Europe and also anti- | in the month called Muharram, which corresponds with Dec. 11 of the year 1912, and is the beginning of the 1331 year of Hejira. The Mohammedan months are: Muharram, Saphar, months are: Muharram, Saphar, Rabia i., Rabia ii., Jomada i., Jomada Shaaban, Rajab, Ramadan, Shawell, Dulkaada, Dulheggia. The

Calends

month Ramadán is observed by all Moslems as the month of abstinence. The Revolutionary calendar .- The Revolutionaries, flushed with success, decreed in the National Convention of 1793 that the year of the Christian era should no longer be observed as the civil year, but that a new era. dating from the commencement of the republic, should be established. Accordingly, the date Sept. 22, 1792, was fixed as the first day of new era of freedom. The model they chose to establish themselves on was essentially Grecian. The year was to consist of twelve months of 30 days. There were to be five complementary days which were to be celebrated as holidays, and were dedicated to Virtue, Genius, Labour, Opinion, and Rewards. Every fourth year was to have another complementary day, which was to be called Revolution Day. The period of four years was to be called a Franciade, and the months were to be equally divided into three periods of 10 days each. The months, commencing on Sept. 22, 1792, were to be as follows: Vendémiaire, Brunaire, Trimaire, Nivose, Pluviose, Ventose, Germinal, Floréal, Prairial, Messidor, Thermidor, Fructidor. An alaborate contemplar and productions of the contemplar and productions of the contemplar and the contem elaborate system also was evolved, by means of which the centurial error would be corrected, but the Gregorian C. was adopted in 1806, by a decree of

Napoleon. Calendering, the process of pro-ducing a glazed or polished surface upon paper, linen, and cotton. The term is a corruption of 'cylindering, having reference to the usual method of passing the material between re-volving cylinders, usually of steel or hydraulically compressed paper, under high pressure. The principles are illustrated by the domestic iron and

mangle.

Calends, or Kalends, a term used in the Roman computation of time. The C. fell upon the first day of each month; the Nones and Ides on the seventh and fifteenth days respec-

month. The reckoning was always inclusive, i.e. in the last case both the day itself and the following C. were included. The proverbial phrase Ad Kalendas Grocas is equivalent to never, as the Greek calendar had no Calenda.

Calendula, a genus of plants of the order Composite, common to the Mediterranean. C. officinalis is well known in England as the pot-marigold, Mary-bud, or golds, and is a very hardy garden plant. C. arrensis,

the field marigold, grows profusely in vineyards of the Rhine.

Calenius, Walter (d. 1151), an arch-deacon of Oxford, from 1115 to 1138. The name C. was given to him by John Bale, it being an adjective formed from Calena, Oxford. According to Geoffrey of Monmouth, this Walter brought from Britany the Breton or Welsh original which Geoffrey professed to translate in his History of

the Kings of Britain.
Calenture (from Sp. calentura), a temporary delirium of fever to which sailors are prone in hot climates. The nature of the disease is somewhat obscure, but brought on through exposure to the sun's rays.

Calepino, Ambrogio (1435-1511), an Italian lexicographer, b. at Bergama, and became an Augustine monk. His whole life was spent in the compilaof which

Reggio in published

by the Aldi between 1542 and 1592. Calf, see Cows.

Calgary, the chief port of Canada, in 41

Вc lin

It is a trading-centre of a ranching and agricultural district, and large shipments of cattle, sheep, horses, wheat, etc., are regularly made. chief industries are brewing, tanning, leather, and biscuit-making, and it of the contains the workshops Canadian-Pacific Railroad. C. is an important station of the Hudson Bay Company and of the Royal North-west Mounted Police and the Fifteenth Light Horse. Pop. (estimated 1906) 17,000.

Calhoun, John Caldwell (1782-1850), an American statesman, born in Abbeville co, S. Carolina, of Scottish-Irish parentage. He graduated at Yale in 1804, and then entered the legal profession. In 1811 he represented his native state in the congress, and strongly supported measures which led to the declaration of war with England (1812-15). As Secretary of War in Monroe's cabinet

president of the United States, in 1825-29 and 1829-32. In 1829 he showed that his political views were undergoing a change, and in 1831, in his Address to the People of South Carolina, he definitely severed his connection with President Jackson, by setting forth his theory of state rights as opposed to federal rule. He retired from the vice-presidency and sat in the senate from 1832 till 1843, when he became Secretary of State under Tyler. C. strongly opposed war with Mexico (1846-47) and championed the slave-holding states (1848), honestly believing slavery to be a blessing to master and slave alike. He died at Washington. For his life, consult R. S. Jenkins, 1851; and R. K. Cralle, in the collected edition of his works (1853-55); for his political and social views, and for the history of his time, consult the life by Yon Holst, 1882. His Correspondence was published by J. F. Jameson in 1900. Cali, a tn. of Colombia, in the dept. of Cauca. It is situated on the Rio C., near its junction with the Rio Cauca at an elevation of 3100 ft. It

Cauca, at an elevation of 3100 ft. It is an important commercial town, and contains the fine Ionic church of

San Francisco. Pop. about 16,000.
Caliban: 1. The 'freckled whelp
of Sycorax, the hag, the savage and deformed slave of Prospero in Shake-speare's play, The Tempest He is described by Coleridge as 'all earth, all condensed and gross in feelings and images.' The symbol of a missing link between brute and man. 2. A play by Ernest Renan, published in 1878, which takes up the story of this creature from the point where Shake speare left it. 3 The name under which Robert Buchanan contributed several poems to the Spectator in 1867.

Calibration, a term which was originally applied to the measurement of the bore or 'calibre' of a cannon, an accurate knowledge of which was essential. Passing through the meaning of measurement of the bore of any tube it has now reached the meaning of the comparison of the readings of any instrument with what it should ind

is fic ost is

not so much to graduate the scale so as to give very accurate readings, but to make the scale roughly accurate and then attach a list of corrections. As an illustration of the methods used we may take the case of some electrical instruments. An ammeter measuring continuous current can be calibrated by comparison with a (1817), he did valuable service to his country in reorganising the war department; and twice became vice- of deflection is proportional to the square of the current. The principles thermometers. In the process of manufacture the tube is scratched at points reached by the mercury at the freezing and boiling points of water. The that the bore of the capillary tube is ferent parts of the tube.

Calibre, see GUNS.

Calibre

Calico-printing, the process of im-

This gives a means, cylinder by a colour-box in which a current flowing. This gives a means, cylinder by a colour-box in which a of comparing the divisions of the small roller revolves up to its axis, at anmeter scale among themselves, but the same time pressing against the if the values recorded are to be com-copper cylinder. The colour doctor, pared with actual current values, the a thin steel blade fitting against the constant of the galvanometer must be surface of the copper cylinder before found by means of a voltameter or contact with the cloth, removes similar instrument. Similarly, an excess of colouring matter; while ammeter measuring alternating cur-another steel blade called the 'lint rents may be calibrated by means of doctor' is similarly fitted after the an electrodynamometer, the deflec- printing-cylinder leaves the cloth to tions of which are proportional to the remove all impurities communicated by the cloth. The adjustment of all of C. are best illustrated in the case the rollers must be as perfect as pos-of the ordinary mercury in glass sible, so that each colour printed fits accurately in its proper place. There are many 'styles,' or methods, of colour printing, some involving the printing of mordants first and dyeing distance between these marks is the whole material after, some which divided into a hundred parts, each involve the oxidation of the colour-part called a degree. But this assumes material used, and some which require the application of stream at constant throughout its length, which considerable pressure to fix the is never true. The process of C. con-colours. Mordants may be defined as sists in observing the length of a substances which have an affinity for detached column of mercury at difthe fabric on the one hand and an the fabric on the one hand and an affinity for the colouring material on the other; they thus serve to hold the colouring matter in place. They vary pressing on cotton or other textiles in composition according to the purcertain designs in colours. The art pose they have to serve, and it may was known to the Egyptians, even be noted that the same colours as far as the effect of certain sub-inaterial may give different colours stances called 'mordants' in making with different mordants. In the the colours permanent in the fabric. 'madder style,' for example, a cloth the colours permanent in the later. I mader style, for example, a coun it was also known in quite ancient may be printed with four or more times in India, whence, through the different mordants in the printing agency of the Dutch East India Commachine. After being dried in a drypany, the trade was brought into through a process called 'ageing.' London in 1676. Glasgow in 1738, and This consists of subjecting them to into Liverpool in 1764. The essential the influence of heat and moisture, by into Liverpool in 1764. The essential the influence of heat and moisture, by principles of the methods have re-which certain necessary physical and mained the same, but the development of the use of machinery and mordants are brought about. The the extension of chemical knowledge in mordants are brought about. The nave made the operations less tedious sists of passing the cloth through a and more varied in their colour-hot solution which removes any uneffects. There are two processes of combined mordant or thickening printing, block-printing and machine-lagent. A solution of cowe' dung was printing. In the former, a wooden formerly used for this process, but block is engraved with the design by many effective substitutes have been hand, exceptionally fine work some-idiscovered. The material after being times being done on copper plates let; thoroughly washed is ready for dretimes being done on copper plates let; thoroughly washed is ready for dye-into the wood. The design for ma- ing, a process usually occupying one chine-printing is first of all engraved or two hours. The material then has upon a soft steel roller, which is hard-; to be 'cleared,' that is, the colour has upon a soft steel roller, which is hardto be 'cleared,' that is, the colour has
ened and made to impress the design
in relief on a second steel cylinder.
This cylinder is hardened in its turn a
hot soap solution and a chlorine
and finally transfers the original design to a copper roller. Each colour
to be printed demands a separate
roller, so that machines carrying asto printa' resist,' that is, a substance
many as twenty copper cylinders
many be employed. Each printingcylinder is mounted so as to press
cylinder is mounted so as to press
which prevents the incorporation of
the colour-material with the fabric:
the coloured portion will then ultiagainst a large central roller, around
with the resist. Steam is used with
the colour subplied to each copper some colouring substances either to ne colour is supplied to each copper; some colouring substances either to

fix them in the fabric by mere me- peaks over 10,000 ft. high. chanical blowing through, or to effect | these is Mt. Whitney (14,898 ft.), the a desired chemical change, or, when highest in the United States (excludalbumen is used as a fixing agent, to

bring about the required congulation. Madras, 84 m. N. the first Europear e in 1486, and . 4. trade, but declined under

rule, and only revived af pation by the English in given its name to calico.

Calidasa, or Kalidasa, a of the post-Vedic period literature. The dates of

extremely uncertain. He seems to have lived during the reign of Vikramáditya of Ujjain, but as there were several monarchs of that name from 57 B.C. to A.D. 1050, this does not assign any very definite limits. He has been traditionally assigned to the first century B.C., but modern scholarship tends to place him considerably later. His most famous works are his dramas, especially Salcuntala, which, when first introduced to Europe through the translation of Sir William Jones in 1789, was received with distinct from that of the more easterly

poems, Raghuvansa, translated into English by P. de Lacy Johnstone, 1902; and Kumara Sambhava, only remarkable for isolated passages, and differing so greatly that it seems doubtful if they can be credited to the same author; and several lyrics, the best, Meghaduta (The Cloud Messenger), being very beautiful. Nalddaya, a poetical romance, translated by Rev. W. Yates, 1844, is also ascribed to Calidasa.

Calif, see Calipii.

California, a Pacific state of the United States of America, bounded N. by Oregon, E. by Nevada and Arizona, S. by Lower C. (Nexico), and W. by the Pacific Ocean. It lies between parallels 32° 28' and 42° N. lat. It is popularly known as the Golden State, and in the W. it is often spoken of as 'the Coast.' The Yest mountain extern of C. with the vast mountain system of C., with the variation it gives of peak and canon, valley and hill, is one of its most Two great The Sierra conspicuous features. mountain ranges exist.

Chief of ing Alaska). Among the Sierra Nevada ranges are the rifts of the Yosemite, King's, and Tuolomne, cañons famous throughout the world for their magwas nificent scenery. Along the coast lies by the series of disconnected ranges in grouped as the Coast Range, longer It but lower than the Sierra Nevada. had been a great centre of native Between these two ranges lies the cramento and

ch two rivers rancisco Bay. tributary the part of the most of the S. the Eel. ıre

iriuity, and klamath, all in the N. Since C. extends over 700 m. from N. to S., the climatic conditions are varied. The northern district is very rainy, particularly in the winter, and the N.W. is damp and foggy. The S., however, is warm and semi-tropical, and has thus become a favourite winter resort for invalids. The rainfall is generally low, and the nights are generally cool throughout. On the whole, the climate is one of the best in the world. The flora of C. is very

· its characteristic proamed the mammoth a, and the Sequoia species of redwood particularly in the ts supply abundance all the agricultural

products of the temperate and semitropical regionsflourish well. Its range of climate is shown by its varieties of flora and fauna. Of animals, the most characteristic are the grizzly and black bears, the puma, the highorn sheep, and various varieties of The northern rivers supply good stores of salmon, and coast fishing is generally important. geology of the state is fairly simple. The general basis is fairly recent, the Sierra Nevada being chiefly composed of Triassic and Jurassic beds; the Coast Ranges are chiefly Cretaceous and Tertiary. The axis of the Sierra Nevada is probably Archean, and the elevation of the Coast Range occurred towards the end of the Miocene period. The mineral resources are great, and since the discovery of gold in 1848 the output has been enormous. Other minerals are silver, iron, coal. borax, rock-salt, quicksilver, and copper. The gold is now principally obtained from the quartz mines. For long, C. was the chief gold-producing state, Nevada runs almost parallel with the coast along the E. boundary of the The mining of precious stones is instate. Its average breadth is about a dozen on, and it includes about a dozen of the mining of precious stones is instant. The gradual so m., and it includes about a dozen of the number of small owners

has given an impetus to C.'s agricultural progress. At first wheat-raising was the principal industry, and C.'s produce of this cereal exceeded that of any other state. Semi-tropical fruits of all kinds, barley, etc., are now in general use. The growth of manufacturing in the state is comparatively recent, its isolation, the high price of labour, and the scarcity of fuel all being disadvantageous. Manufactures of railway, foundry, and machine-shop products, the lumber and timber industries, sugar, molasses, leather, etc., are now well established. Railway facilities are now good, except in the N. The Southern Pacific and the Union Pacific join at Ogden and Utah, while the former also connects with the Railway and Navigation Company at Oregon. C. has retained the old form of government. governor is chosen for four years. The senate consists of forty members, chosen for four years, and the house of representatives is chosen for two years. The state sends eight representatives to the national congress. Chief towns and pops. (1900): San Francisco, 342,782; Los Angeles, 102,479; Oakland, 66,960; Sacramento, 29,282; San José, 21,500; San Diego, 17,700; Stockton, 17,506, etc. Area of state 156,092 sq. m. Pop. (1910) 2,377,549.

California, Gulf of, an arm of the Pacific which separates the Lower Californian peninsula from the rest of Mexico. Length is about 700 m., and breadth varies from 50 to 130 m. It was originally known as the Sea of Cortes, after its first explorer. Both shores are bordered by high mountains and the coast-line is very varied. At its northern extremity it receives the Colorado, and various other streams also run into it. On its coasts are the ports of San José, La

Paz, Mazatlan, and Guaymas.
California, Lower, a peninsula about 750 m. long and averaging 75 m. in breadth, which forms a territory of the Mexican republic, from the rest of which it is separated by the Gulf of California. It is healthy and dry, but the surface is too mountainous to be of much use for agricul-Mining of copper, silver, and gold is carried on to a certain extent. and the fisheries are fairly productive. Capital, La Paz. Pop. about 4300. Area about 60,000 sq. m.

Caligula, Caius Cæsar Augustus Germanicus (A.D. 37-41), was born at Actium in the year A.D. 12, the son of Germanicus and Agrippina. He was brought up among the soldiers at the camp, and thus became their favourite, receiving from nickname of C., from the

boots (caligulæ) he used to wear. He was adopted as his grandson by Tiberius, and on the death of that monarch in A.D. 37 it was found that the empire was left to C. and the true grandson of Tiberius. C.'s appointment was hailed with enthusiasm, and the senate and people soon gave him sole power. For a time he gave no sign of carrying out Tiberius's prohpecy that he was educated 'for the destruction of the Roman people. He removed taxes, and scattered reindemnities liberally. wards and Then came an illness induced by his evil life, and on recovery from this he seemed possessed by a fury. slaughtered his own relatives, and filled Rome with blood. His extortions, prodigality, and cruelty were unspeakable. No form of debauch was unknown to him, and he lived in incestuous relations with his sisters. His madness at last led him to proclaim himself a god, and to demand divine honours. Finally, the citizens decided to rid themselves of the tyrant, and he was assassinated.

Caligus is the typical genus of the crustacean family Caligidæ, or fish-The species are parasitic on fish to which they adhere by the hooked posterior antennæ, but they can also swim rapidly. C. rapax preys on seatrout. C. Mülleri on cod, C. lacustris on pike and carp.

Calipers, an instrument resembling a compass with bent legs, and used for measuring the diameters of various objects. It is used for finding the correct measurement of bores and shafts. There are different kinds of Cs. For example, the micrometer C. is used for minute measurements and is applied to such instruments as the

telescope and microscope.

Caliph, Caliphat (from the Arabian word Kalifa, meaning 'successor'), the title given to the civil and re-ligious head of the Mohammedan states. Each caliph is supposed to be a direct lineal descendant of the great prophet Mohammed. There is a tradition which has been wrong-fully attributed to him, that there can only be one caliph at a time, and should another one be set up, he must be put to death, 'for he is a rebel.' After Mohammed died this rebel.' After Mohammed died this title was first borne by a man named Abu-Bekr, who was elected Mohammed's 'representative.' The history of these rulers can be divided into three divisions: (a) The first four caliphs, who immediately succeeded Mohammed; (b) the Ommiade caliphs; and (c) the Abbaside caliphs. Ommiade With regard to Abu-Bekr, the first of

here was much trouble between the people of Medina, who wished to set up a member of their house, and the emigrants, who set up an opposition claim, and from one of Moawiya's ancestors. Who were successful, as they had their seat was Damascus. Many were brought into Meding brought into Medins to terrorise over th

Abu-Bekr Medina. and father-in-law of

dealing with the trouble of the times. He organised an attack on the Greeks, but he himself remained behind to defend Medina. When his army came back, he attacked the rebel party; eleven small flying columns were enough to put down the rebellion. The war that had been started by Mohammed against the border countries was an excellent way of making the religion popular to Arabs, as time was given for looting, and much wealth was gained thereby. In the In the war that was carried on against the war that was carried on against the Persians, the Moslems were unsuccessful at first, but at last, at the battle of Kadessia, the Persians were beaten, and they had to give up part of their land and limit themselves to Iran proper. The Moslems under Abu-Bekr had soon annexed all the lands bordering on Arabia, and to these they added Egypt. The natives of the lands that had been conquered soon adapted themselves to the new Their nationality had been rule. broken long ago, and they were more Arabian than anything else, and with regard to religion they at least would with toleration from Islam. Abu-Bekr died on Aug. 22, 634, and had only been in power a short time. He was succeeded by Omar, during whose reign there were further tremendous conquests. Omar was a great plunderer, but he paid for his fault by being murdered by a Kufan workman in a mosque in Medina in November 644. Othman succeeded Omar in the caliphat; he was a very weak ruler, and all the government of Islam fell into the hands of the Koreish nobility. He was a man who continually made fair promises but never kept his word. This fact exasperated the people, and after an outrageous case of breaking his promise he was besieged in his own house, where he defended himself for a time, but at last the mob gained an ontrance, and put him to death. He was then eighty years of age. After much controversy Ali was elected as successor to Othman. Ali had no successor to Othman. All had no right to be elected, but he gained his position by ambition and sheer desire for power. His reign was not at all a peaceful one, nor an enjoyable one for him, and he was murdered also, in January 661. After these four caliphs son, Almahdi (775-85), and his grand-had passed away the Ommiade son, Alhadi (785-86), spent it all vain-dynasty arose. Moawiya (661-680) gloriously. Alhadi's brother, Haroun

battles that took place He was essentially a d he was as well a re-

he followed closely the he proved himself quite capable of precepts of Islam. None of his successors, however, had either of these Moawiya's son, Yezid I. virtues. (679-83), succeeded. He led a rebellion into Irak, but before he got there the governor of Kufa had crushed the cause, and on the field of Kerbela the governor Obeidullah was slain, but Yezid spared his kinsman. Yezid was followed by Moawiya II. (683), and then came Merwan I., who was murdered in 685. Abdulmalik next ruled, and his reign lasted till 705, and a very turbulent reign it proved to be. He gave the caliphat a coinage of its own, and also gave his patronage to scholars, and urged them to translate Persian works into Arabic. In the year 692 he levied a tax called the Flaratch, or capitation tax, on all Christian men. This was a means of getting money with which to support his wars. The next collect I. (705-15), w

man himself. extended, going as far as to include Spain on the one side and to the mouth of the Indus on the other. After him came Sulciman I., who died Then came a good man, in 717. Omar II., but he was poisoned in 720. Yezid II. next succeeded, and died in 724. Hisham died in 743. Wa was slain in a rebellion in 744. Walid II. III. died also in 744, Ibrahim was dethroned by Merwan II., who was governor of Armenia (745). This was the end of the rule of the Ommiades. They were not popular, and at last three brothers, descendants of Abbas, an uncle of the prophet, rose in rebellion. The whole land was thrown into a civil war between the white Ommiades and the black Abbasides. Merwan was pursued into Egypt, and killed in battle in 750. Abdallah, an uncle of the claimants, sent an invitation for a feast to eighty Ommades in Damascus, and when they were assembled he slew them all. Thus came the Abbasides into power. Abul Abbas (750-54) was the first caliph under the Abbaside regime. He was under the Abbaside régime. He was called also Saffah, meaning 'shedder of his enemies' blood. He was followed by Abu Jaafar Almanser, his brother (754-75). He it was who made Bagdad the seat of empire. He left behind him a sum of money of something like £30,000,000, but his al Raschid ('the Just') came next (786-809). He is best known from the fact of having given his patronage to all orthodox and literary men. persecuted the Christians, and made eight separate attacks on the Greek empire in Asia Minor. His three empire in Asia Minor. His three sons fought for supremacy instead of accepting their father's division of the empire. Amir was defeated and slain in 813, and his brother Almamun succeeded him (813-33). Mutassen followed his brother (833-42), but with him departed the glory of the caliphat under the Abbasides. He was afraid of his own subjects, so he left Bagdad and went to Samarrah, and got together under his leadership about 50,000 Turks. These men, about 50,000 Turks. These men, being so much steadier, they soon had all the power in their hands. Ever after the caliphs held power and life by the sanction of the Turks.

Calippus, Greek astronomer, A. at the beginning of the 4th century B.C He rectified the lunar cycle, giving it a duration of sixty-three years, the period being known as the Calippic

cycle.

Calixtus I. (218-222), pope and successor of Zephyrinus. His life is known chiefly from the accounts of Hippolytus, a schismatical adversary of his. This writer says that C. was a slave, denounced as a Christian by the Jews, and late associate of Pope Zephyrinus. Hippolytus accused him of favouring the Papripassian views and of lax discipline. The ceme-

over the investiture question and the schism of the anti-pope. He commenced negotiations on the former question with the Emperor Henry V .. and after some trouble, matters were settled at the Concordat of Worms. 1122. He defeated the anti-pope, Gregory VIII.

Calixtus III. (1455-58), Alfonso de Borga, a Spaniard, also pope. preached a crusade against the Turks, who had just taken Constantinople (1453). His chief work was the vindication of the memory of Joan of Arc. The same title, C. III., was also borne by one of the anti-popes, whom Frederick Barbarossa, the emperor, set up in 1168 in opposition to Alexander III. The name of each of the popes is often spelt Callistus

Calixtus. Georgius, properly Callisen (1586 - 1656), a German Protestant

toleration, and his advocacy of this brought him into some suspicion. His chief work is an Epitome theologia

chiet Work L. moralis, 1634. Call, Sir John (1732-1801), a mili-call, Sir John (He was appointed to Fast India tary engineer. He was appointed chief engineer to the East India Company in 1750, and served at Fort St. David in 1751 and again in 1752-57. He was present at the siege of Pondicherry (1761), and returned to England in 1769. He represented England in 1769. He represented Callington in parliament (1784-90), and was created baronet in 1791.

Calla, a genus of Araceæ with the single species, C. palustris, bog arum, found in marshes of N. Europe. The leaves are cordate, not sagiltate, and the hermaphrodite flowers, borne every two years, are enveloped in a beautiful white spathe. Richardia æthiopica, the Egyptian lily, or lily of the Nile, was formerly included in

this genus.

Callahan, James Morton (b. 1864) professor of history and political science at W. Virginia University. He was educated at the Normal and Commercial schools, and University of Indiana (graduating 1894-95), at Chicago University and Johns Hopkins University. He was teacher at the Normal Pedagogical Institute, Hope, Indiana, 1888-90; director of the Bureau of Historical Research, 1900-2; head of the Department of History and Politics, W. Virginia University, 1902-10. C. has held numerous other professorships besides, and has won tery on the Via Appia bears his name. fame by his researches. Among his Calixtus II. (1119-24), pope, pre-works are: Cuba and International viously Archbishop of Vienne, in Relations: The Monroe Doctrine and France. He ruled during the struggles Inter-American Relations; Diplomatic History of the Southern Confederacy.

Callan, a tn. of Ireland, Kilkenny, 8 m. S.W. of Kilkenny; pop. about

2000.

Callander, a market tn. and bor. of Perthshire Scotland, situated on the R. Teith, about 16 m. N.W. of Stirling. It is in close proximity to the Trossachs, and is mentioned as the gate of the Highlands.' Being thus romantically situated, it has become a centre for tourists, and large hotels and hydropathic establishments have been built. There are several churches. including an Episcopal church, as well as the Established, and the United Free Church of Scotland. Pop. 1500. Callao, a tn. and chief scaport of Peru, 6 m. S.W. of Lima, the capital.

It is situated on C. Bay, where it is sheltered from storms by the island of San Lorenzo. It has a floating-dock, theologian, was born at Medelbye in and fine harbour-walls. It has gas-Holstein. In 1613 he became pro-fessor of theology at Helmstedt, and etc., and its chief exports are minerals, was engaged in keen controversy with learning and the sugar, hides, wool, etc. The present the Roman Catholics. His study of town dates only from 1746, when the the first centuries inclined him to old city was destroyed by a great earthquake. It has suffered consider- Callianiridee, a family of the order ably from bombardments by Spanish Tentaculata and phylum Coelente-

hunt College, London. He retired from the Nonconformist ministry for educational work and geological research. Since 1876 C. has studied the Archæan rocks of Shropshire, Anglesey, the Scottish Highlands, Donegal, and elsewhere. He established two new Precambrian systems-Uriconian and Longmyndian. The Geo-logical Society awarded him their Murchison medal, 1906. In this year C. founded the Cheltenham Ethical Society. Among his works are: The Precambrian Rocks of Shropshire; King David of Israel, a Study in the Evolution of Ethics, 1905.

Callaway, Henry (1817-90), an Anglican missionary bishop. He studied surgery at St. Bartholomew's Hospital; M.D. Aberdeen, 1853; joined the S.P.G. in 1854, and subsequently became bishop of St. John's, Kaffraria, in 1873. His chief work was The Religious System of the Amazulu, 1868-70. Consult Miss Banham Henry (1808-70). 1853: Amazulu, 1868-70. Consult Miss Benham, Henry Callaway, 1896. Callcott, Sir Augustus Wall (1779-

English landscape painter, orn at Kensington. He early was born at Kensington. studied music, and was for several years a chorister at Westminster Abbey. In 1799 he determined to devote himself entirely to painting, and exhibited for the first time at the Royal Academy. In 1806 he became A.R.A., and in 1810 received his R.A. In 1837 he received knighthood. His best works are landscapes, and these are remarkable for their clearness and

delicacy. But his largest work is 'Raphael and the Fornarina.' Callectt, John Wall (1766-1821), English composer, brother of the preceding, was also born at Kensington, and for some years studied medicine. He then gave himself to the study of music, and in 1800 became doctor of music at Oxford. In 1806 he pub. a Musical Grammar, but insanity prevented him from pursuing further studies.

Callernish, or Callanish, a dist. and vil. on Lewis Is., Ross-shire, Scotland, on the E. coast of Loch Roag, 16 m. W. of Stornoway. Its four Druidical circles are among the finest in Britain. Pop. about 500.

Callianassa, a genus of decapod crustaceans, and is the type of the family Callianassidæ. They are noted for the inequality in size and form of the chelæ, or claws. C. subterranea, the commonest species, is found at Naples and on French and English shores.

Callianira, the typical genus of the structive to fir-trees.

and Chilian navies. Pop. (1896) 48,118. rata. The body is gelatinous and pro-Callaway, Charles (b. 1838), English geologist and writer, educated at Chesappendages. C. triploptera and C. bralata are two examples.

Callias, the name of a powerful Athenian family which produced many distinguished citizens. best known of these, surnamed Κακοπλουτος (beginning of 5th century B.C.), was reckoned as the richest Athenian of his time. He is said to have slain a Persian at Marathon who revealed to him the hiding-place of a vast treasure. Legend also tells that in 469 B.c. he was one of the ambassadors sent by the Athenians to Artaxerxes, and that he arranged the peace of Callias.

Callicera, the generic name of certain dipterous insects of the family Syrphide. They are stoutish flies with large heads and eyes, the body is silky, and the antennæ form elongated

and slightly curved clubs. Callichroma, a genus of Coleoptera of the family Cerambycidæ, or longi-corns. It differs from allied beetles in having the maxillary palpi smaller than the labial, and shorter than the terminal lobe of the maxillæ. It emits a very agreeable odour.

Callichthys, a genus of malacopterygious fishes belonging to the Siluridæ, or cat-fish family. The body and head are protected by large, hard. scaly plates, only the snout and under surface being naked, and barbels depend from the mouth. species frequent rivers and streams in hot climates, and when the water dries up they perform journeys over-land in quest of new ponds. Callicrates, a Greek architect who,

with Ictinus, planned the celebrated Parthenon, which is the magnificent temple erected in honour of the virgin goddess Athene in the year 438 B.C. It is the finest example of Greek architecture still extant.

Callicratidas, a Spartan general, was sent in the year 406 B.C. to take Lysander's place as commandant of the fleet, towards the end of the Peloponnesian war. He pursued Conon, and defeated him in the harbour of Mitylene. Conon took refuge here, and held out till the Athenians sent a large force to his relief. C. was then defeated and slain in the naval battle of Arginusæ. C. was greatly hampered in his efforts for efficiency, by the incapacity of his predecessors.

Callidium, a genus of colcopterous insects of the Cerambycidee, or longicorns. C. bagulus is a British species, about three-quarters of an inch long, of dull black colour, and is very de-

Calligonum, a genus of Polygonacea, is brown and white in colour; C. lyra, which consists of about twenty species the gemmeous dragonet, is another from Africa and Asia. C. Palasia British species, and is yellow yields a nutritious gum, which is sapphire, and violet in hue. obtained from the root, and a Calliope, the first of the nine muses beverage is made from the fruit.

who fl. in the 5th century B.c. He rally depicted with a tablet and a was possibly a disciple of Calamis, pencil and the great characteristic of his work was over-minuteness. borer for drilling marble. Among river god. other decorations furnished by him : for the Erechtheum was a famous Olynthus, Greek philosopher

golden lamp. a school at Alexandria, where he luxury and assumption of divine had Aristophanes of Byzantium and origin. The Life of Alexander once Applications of Byzantium and origin. Apollonius of Rhodes among his dis- ascribed to him is certainly spurious. andrian library under the former, and held this office till his death. In his Hirares (Tablets) he gives a catalogue of the books in the library, with a short criticism and account of the elegy, Berenice's Lock, is known to us 'Africa; in Britain they are known as in the translation of Catullus. Some water starwort. The flowers are unifragments of his Hecale have been found, but his 'Airac is quite lost. ing, the male flower being simply It dealt with the foundation of cities, a eligious customs, etc. The best billocular, spuriously quadrilocular overy with two styles. In C. verna are those of Meineke (1861) and Wilamowitz (1882).

Callimorpha, a genus of lepidorCallimorpha, a genus of lepidorCallimorpha, a genus of lepidorCallimorpha, a genus of lepidorCallimorpha, a genus of lepidor-

a common example.

hole near the nape of the neck, the thickest in the centre. rentral fins are under the throat, the fin-rays of mature males are produced into filaments, and the body is corraine. At the age of twelve be smooth and without scales. C. draco, ran away from home, intending to the skulpin, is about 10 in. long, and seek Rome and devote himself to art

and the mother of Orpheus. She is Callimachus, an Athenian sculptor. the muse of epic poetry, and is gene-

Callirrhoe, the name of a famous He is fountain in Athens, and formed one supposed to have invented the of the chief water supplies to that Corinthian capital, and also to have town. According to Greek legend C. been the first to employ the running was the daughter of Achelous, the

Callisthenes (c. 360-328 B.C.) of historian, kinsman and pupil Callimachus (c. 310 - c. 240 B.C.), a Aristotle, accompanied Alexander Greek grammarian, critic, and poet, the Great into Asia. He was put to born at Cyrene of the distinguished death on account of his remon-Alexander family of the Battiadæ. He founded strances against Alexander's oriental

tinguished pupils. He was a favourite of both Ptolemy Philadelphus and of lived in the reigns of Septimus his successor, Ptolemy Euergetes. He severus and Caracaila. He is said became chief librarian of the Alex- to have been a pupil of Papinian. to have been a pupil of Papinian. None of his writings are extant, but some of his works are the source of the Digest of Justinian, in which some

extracts from him are given-Callitrichaceæ, a very small order writers. This laid the foundation of of dicotyledonous plants, consisting the critical study of Greek. He is said of about twenty-five species, all conto have written some 800 works, but tained in the single genus Callitriche. of these only six hymns and sixty. They are nearly all floating plants, four epigrams remain entire. His and are cosmopolitan but for S. elegy, Berenice's Lock, is known to us Africa; in Britain they are known as

Callimorpha, a genus of lepidoptera of the family Arctiidæ, and interactive several beautiful night-flying into a horn substance. This thickending slarge, somewhat triangular, the lemical irritation continued for a continu wings large, somewhat triangular, chemical irritation continued for a and the hinder margins are rounded, lengthy period. They are more fre-C. Jacobra, the pink underwing, is quently found in manmals, and they are especially conspicuous in camels Callington, a tn. of Cornwall, Eng. and on the inner side of the legs of land, 10 m. from Launceston. Has horses. In the human being C., or tin, copper, and arsenic mines. Pop. corns, are generally situated on any about 2000. Callionymus, the technical name of also appear on any part of the inthe acanthopterrgious fishes known tegument and are often formed on popularly as dragonets, a genus of the soles of the feet. In appearance Gobiide, or goby family. The gill the skin takes on a yellowish colour, openings are reduced to a single small is smooth and horn-like, and is

then found, however, and taken Once again he escaped and was brought back, and then his parents gave way, and sent him to Rome with the Duke of Lorraine's ambassador. For some time he painted in Florence, but quitted this town to return to his prince. visited the Low Countries to gather the material for his 'Siege of Breda,' and later Louis XIII. of France engaged him to engrave other war pictures, among which is the 'Siege of La Rochelle.' When asked by his royal patron to depict the taking of Nancy, he declared that he would rather cut off his thumb. C., the great painter of manners, has left a vast number of engravings. He was rapid and impatient in his work, and all his engravings are marked by vigour and animation. His 'Gipsy Halt' and 'Miseries of War' are particularly remarkable in this respect.

Calluna vulgaris constitutes in

itself a genus of Ericaceæ, and is known as ling or heather; it flourishes on every heath of Britain, and is common in N. America and Europe. The plant is a low-tufted shrub, with sessile, closely - imbricated leaves, flowers varying in colour from deep red to white, and fruit a septicidal capsule.

Callus, the substance given off round the fractured ends of a bone forming a new bone which unites the breakage. A similar process takes place in plants when a cutting is taken or a branch pruned. When a plant is damaged a succulent tissue exudes and covers up the cut surface. In cuttings this C. produces the roots of the young plants.
Calman, William Thomas (b. 1871),

was lecturer and demonstrator in zoology in University College, Dundee, 1895-1903. He has been assistant uce, 1899-1995. He has been assistant in the zoology department of the British Museum since 1994, and a member of the Board of Studies in Zoology, University of London, 1906-9. Among his works are: The Life of Crustacea, 1911; articles on 'Crustacea' in 11th edition of the Encyclomedia, Britancia and various science. pædia Britannica, and various scientific papers.

Calmar, see KALMAR. Calmet

He joined a band of gipsies, and later | Senones. His chief work is the Histhe suite of a nobleman. He was toire ecclésiastique et civile de la Lorrainc, 1728, characterised by great learning and research. His Diction-naire historique critique et chronologique de la Bible, 4 vols., 1722-28, is one of the first works of its kind. Another important production is the Another important production is the Commentaire sur tous les livres de l'Ancien et du Nouveau Testament, 23 vols., 1707-16. For further particulars, see the Vie de Dom Calmet by Dom Fangé, 1763.

Calmucks, see Kalmucks.
Calne, mrkt. tn. of Wiltshire, England, 6 m. E.S.E. of Chippenham. It

has a large bacon-curing industry and manufactures of flour and paper. In 978, at a synod held here, the floor gave way, precipitating all but St. Dunstan to the ground.

Calochortus, a genus of American Liliaceæ, nearly allied to the fritillary and tulip, and the fruit is a septicidal capsule. The plants are abundant in California, but do not grow well in England unless their roots are carefully protected from frost and excessive water, and can be exposed freely to light and air when growing. albus is a white and C. lilacinus a

lilac-coloured species.

Calomarde, Don Francisco (1775-1842), a Spanish statesman, born in Lower Aragon. He studied law and settled in Madrid. He married the daughter of a physician named Godoy. and obtained a government position. After many changes in his life, he became minister of grace and justice His ministry lasted ten years, and it was marked by singular tyranny and cruelty. His ruling passion was selfish ambition and greed for power, and these caused his over-throw. When King Ferdinand lay dying, C. sought out the king's brother, Don Carlos, whom he thought would succeed, but his scheme was frustrated by Princess Louisa of Naples, who obtained his arrest. however, bribed the soldiers to let him escape, and he spent his remaining years in France. He died at Toulouse. Calomel, the popular and medical

name for mercurous chloride, or subchloride of mercury, Hg2Cl2. substance is found in nature as horn mercury or horn quicksilver, a sectile tetragonal mineral of hardness 1 to 2 and specific gravity 6.48. C. is prepared in the laboratory by adding mercury to sulphate of mercury and triturating the whole in a mortar, camet 17), a triturating the whole in a mortar, afterwards adding common salt and was borr near commercy (Lorraine). He entered the Benedictine order in 1689. In 1718 he was appointed abbot of St. Leopold at Nancy, and ten years later was transferred to the abbey of a dense, white, odourless powder, in- the third. The larvæ live in old wood, soluble in water; it turns black when the beetle among flowers. treated with lime-water, potash, soda, or ammonia. When heated it vaporises without charring and sublimes again unaltered. It is the most widely used preparation of mercury in medicine, producing its effects without much local inflammation. In small doses it is used to relieve congestion of any part of the alimentary system. as it gently stimulates secretion, and thus helps to 'clear the system' in functional increased where activity is required to counteract the effects of over-feeding, unaccustomed lack of exercise, etc. In larger doses it is used by adults as a purgative, and generally as an alterative, as it is often efficacious in restoring the normal activity of any organ after it has been deranged through any cause. C. is not so poisonous as the more soluble mercuric salts, but the absorption of the mercury in great quantity, as in the syphilis-cure, may give rise to poisoning characterised by a coppery taste in the mouth, loosening of the teeth, and in the severer cases, by emaciation, necrosis of the jaws, and neuritis.

Charles Alexandre Calonne, (1734-1802), a French statesman, was born at Douay. He entered the legal profession, and after having filled various offices, became in 1783 Comptroller-General of the Treasury. He found the deficit already large, and in a short time he had managed to increase it much more by borrowing in all directions. Finding at last that it was impossible to continue, he persuaded Louis XVI. to call an assembly of the 'notables,' to whom he pro-posed that their privileges should be abolished. This was not well received, and he was compelled to resign. He spent some years in England, but returned to die in France.

Calophyllum, a genus of trees be-longing to the Guttiferæ, is noted for the beautiful colour of its young leaves. The species grow in tropical countries, chiefly of the Old World. C. Inophyllum, a native of the East Indies, attains a height of 100 ft., and has large leaves like those of a waterlily, snow-white fragrant flowers, and a nut which yields an oil useful for burning in lamps. C. tacamahaca yields the resin which is known as tacamahac. C. Calaba, the Calabatree, grows in the Caribbee Is., and is noted for its white, sweet-scented flowers, green fruit with an oily seed, and timber which is used in making staves and cask-headings.

Calopus, a genus of coleopterous insect of the family Edemeride. The antennæ are long and fillform, with the second joint much shorter than

Calorie, unit quantity of heat. small calorie 'is the amount of heat required to raise the temperature of 1 gramme of water 1°C. the specific heat of water slightly with its temperature, the temperature is usually specified, as from 0° to 1°, or from 15° to 16°. The latter temperature has the advantage that the C. so measured is almost equal to the 'mean calorie' obtained by dividing the amount of heat required to raise 1 gramme of water from 0° to 100° by one hundred. The 'great C. is the amount of heat required to raise 1 kilogram of water 1° C. It is therefore equal to 1000 small Cs., and is approximately equivalent to 3.968 British thermal units.

Calorimeter (Fr. calorimetre, from Lat. calor, heat, and metrum, derived from Gk. μέτρον, measure), an apparatus used to measure quantities of heat developed or absorbed in different chemical and physical different chemical and physical changes, e.g. heat developed by friction, combustion, etc.; or absorbed as by melting ice. Cs. vary in form according to the purpose they serve. The simplest variety, a plain metal vessel, is that used to determine the specific heat of metals. In the ice-C. the heat is measured by the amount of ice which it melts. More complex forms are used to determine the specific heat of gases. In these experiments many contrivances, such as vacuum-jackets, non-conducting air jackets are used to prevent loss of heat, which is the greatest difficulty to overcome. Lavoisier and Laplace invented an ice-C. which has now been superseded by the delicate mercury C. of Faure and Silhermann. See HEAT, SPECIFIC AND LATENT, and THERMO-CHEMISTRY.

Calosoma, a genus of colcopterous insects, is included in the family Carabidæ. They greatly resemble the genus Carabus, and C. sycophanta is one of the largest and most beautiful

species of its family.

Calotropis, a genus of Asclepia-dacese common to the tropics of Asia and Africa. C. gigantea, the madar, mudar, wara, or bow-string hemp, grows in sandy places in many) parts of India, and is noted for its milky juice which is used medicinally in the East; for the fibre made from the bark and the floss obtained from the seeds, C. procera, is known as French cotton or French jasmine.

Calottists, a satirical society founded by Aymon and Torsac, two of Louis XIV.'sbodyguard, in 1702. It derived its name from 'calotte,' the small cap thatthe priests wore to hide their tonsure. In the middle of the 18th century it was converted into a connected by a bridge.

of the Revolution.

Calotype, a process of photography invented in 1841 by Fox Talbot, whereby paper sensitised with silver oxide, exposed in a camera and developed with gallic acid, resulted in the image being a negative, i.e. reversed as regards light and shade.

Calovius, Abraham (1612-86), German Lutheran divine, who was born on April 16, at Mohrungen in He studied at Königsberg. Pru≋ia. and in 1650 he gained the position of professor of theology at Wittenberg. where he later on became general mining superintendent and primarius. He mineral was the most ardent upholder of by is a Lutheran doctrines during the 17th King R century. He strengously fought Calth against Catholics, Calvinists, and Socinians, and he was particularly opposed to the reconciliation policy, or 'syncretism,' of Georg Calixtus. As a polemical writer he has few rivals. His principal work was Systema locorum theologicorum, written be-tween the years 1655-77, and which runs into 12 vols. His book. Historia Syncretistics, written in 1682, was suppressed.

Calovers. Greek monks: a very strict religious order divided into three ranks, and following the rule of St. Basil. Bishops, patriarchs, and monasteries exist, the most celebrated being that of Mount Sinai.

Calpe, a city in India, 51 m. N.W. of Cawnpore; cotton and paper manufs. Seized by the British in 1806. Calpurnia, the last wife of Julius Casar. He married her in 59 E.C.

She has been immortalised by Shakespeare through his representation of her anxiety and superstitious dread at the time of the conspiracy against her husband by Brutus and his colleagues at the ides of March.

Calpurnius, Titus Julius, Latin poet, probably lived in Nero sreign. Chiefly remembered for his Ecloques. which he assumes the name of Corydon. He ultimately found a patron in Melibœus, whose identity is not fixed—possibly Seneca. C. is in no way original, but 'a skilful literary

craftsman.

Caltabellota, a tn. in the prov. of Gircenti in Sicily, near the site of the ncient Tricala, and situated 9 m. N.E. of Sciacca. Originally a Saracen ancient

fortress. Pop. 6500.

Caltagirone, a tn. and an episcopal see in Catania in Sicily. It is a well-built town, and situated on the tops of two hills (2015 ft.), and these are

It is a military institution, but it was finally residential place for the nobility of crushed out of existence at the time the island, and is famous for its schools and also for its pottery. Pop.

45.000.

Caltanisetta: 1. A prov. of Italy in the middle of Sicily. It rises to a height of 3000 ft. in the N., and is drained by the Salso and other small rivers. Its chief products are sulphur, wheat, wine, salt, olives, and other fruits. Area 1263 sq. m. Pop. 35,000. 2. Capital of the above prov. It is a bishop's see, and stands on a lofty plateau almost in the centre of the island, and is 43 m. N.E. of Girgenti. It has a cathedral, technical and schools, sulphur mineral springs, and potteries. Near by is a Norman monastery built by King Roger in 1153. Pop. 43,000. Caltha, a genus of Ranungulacea,

which flourishes in temperate countries and is represented in Britain by one or two species. The flowers are radially symmetrical, have no petals, but usually five petaloid stamens, and the fruit is an eterio of follicles. C. palustris, the marsh-marigoid, or king-cup, is common in meadows and by the side of wet ditches in Britain,

Caltrop (A.-S. calcutrippa), a small iron ball covered with projecting spikes. They were much used in the warfare of the middle ages. When an enemy was expected, the ground over which they were to travel was thickly theologians are chosen from this order strewn with these balls. The result because the monks are of high social was disastrous to the horses as well rank for the most part. Many as to the barefooted infantry. Cs. were also used by the colonists in New England. They placed them among the grass as a defence against the assaults of the Indians. The word is also applied to plants that catch the feet, the 'water caltrops' being the name of the Potamageton because it entangles swimmers.

Calumba Root, or Radix Calumba, is obtained from the climbing herbaccous plant, Jatcorhiza palmata, a species of Menispermaceae occurring The odour is in tropical Africa. faintly aromatic, the taste bitter and slightly acrid, and the bitter active principle is known as calumbine. is used medicinally as a tonic and

stomachic.

Calumet, a tobacco pipe known amour American Indians as 'the peace pipe.' This was always handed round at an assembly of warriors at the conclusion of peace negotiations. In these days it is offered to strangers as a mark of hospitality. Dire offence would be taken should they decline to smoke it. The pipe has a stom of wood two feet and a half in length, with a stone bowl, and is ornamented with women's hair or eagles' feathers.

Calvados, in Normandy, a maritime

Cider is produced in great quantities from the orchards in the Auge district. There are six arrondisse-Augel ments, named respectively after the chief towns, Carn. Vire, Bayeux, Lisieux, Falaise, and Pont L'Eveque. The principal ports are Caen, Trou-

rille, and Honfleur, and there is an excellent fishing industry.

Calvary. The word C. or Calvaria is a translation of the Hebrew word Golgotha, a skull, and it is conjectured by some authorities that this name was given to the spot on which our Lord was crucified because of the skull-like appearance of the mountain ridge; others attribute its name to the fact that this place was the scene of public executions. Mt. Calvary is situated outside the city of Jerusalem and lies to the N.W. Roman Catholics have commemorated this event in some foreign cities by giving a representation in sculpture or stone of the scene on C. For example, out-side the church of St. Jacques at Antwerp there is a representation of three crosses with the figures of Christ and the two thieves hanging on them,

whilst stationed round the crosses is a group of figures who represent those who witnessed the crucifixion.

Calverley, Charles Stuart (1831 84), poet, is best remembered for his famous examination paper on The Pickwick Papers. A sound classical scholar, he composed Translations into English and Latin, 1866; and Theocritus translated into English Verse, 1869: but his best known work will be found in the volumes, Work will be found in the volumes, Ferses and Translations, 1862, and Fly Leaves, 1872. A brilliant man, but unhappily suffering from ill-health, he wrote only short pieces, some of which have secured him his high reputation for humour. parodist he was delightful, and there are some who assert that he is the best writer of parodics in verse in the At the lowest estimate, language. indeed, he is to be compared with the Smiths, whose Rejected Addresses have the drawback, at least the drawback in the case of parodies, of being more elaborate.

Calveley, Sir Hugh (d. 1393), a soldier. He fought in Brittany in the war of 1341-64, during which he was

dept. in the N. of France, and called imprisoned at Josselin. He took part by that name after one of the vessels in the battle of Auray (1364), which of the Spanish Armada, which was ended the war. C. was a freelance and fought for whichever leader pleased fought for whichever leader pleased him. In 1367 he left Henry of Trastanous account of the rocks, and light-houses are placed at the mouths of the Rs. Touques, Dives, Orne, and Vire. The region is mountainous with extensive fertile valleys. The pasture (1377-79) and of Brest (1380). He is age is good, and there is an abundant supply of wheat and agric, produce. Older is produced in great quantities! 1385 founded one at Bunbury in of a college in Rome (1380), and in 1385 founded one at Bunbury in Cheshire.

Calvert, Denis (1555-1619), a famous Flemish painter, who studied first in Antwerp; thence he went to Bologna and Rome; after studying Raphael's works, and assisting Lorenzo Sabbatini with paintings for the ducal palace, he returned to Bologna, where he founded a school which Domenichino and Guido

attended. Calvert, Frederick Crace (1819-73), an English chemist who was born in London, but all his scientific education he received in France. His celebrity was gained from his researches into the industrial side of chemistry. tanning, calico-printing and ironpuddling. He was the first person to manufacture pure carbolic acid, and he was the founder of extensive works in Manchester for the production of same. It may also be said that he made the first use of it as a disinfectant. He also published a book

infectant. He also published a book called *Dyeing and Calico-Printing*. Calvert, George, the first Lord Baltimore, an English statesman and founder of the state of Maryland, in U.S.A. For some time he was secretary of state to James I., but being a Roman Catholic was forced to resign. He retained the king's favour, however, and was granted land in N. America. He died in 1632, before the charter was completed, but it passed to his son Cecil.

Calvert, Thomas (1775-1840), a theologian, born at Preston. He became tutor of St. John's, Cambridge, came tutor of St. John's, Cambridge,
1814; Norrisian professor of divinity, 1815-24; Lady Margaret's
preacher, 1819-24. He was appointed
king's preacher at Whitehall, and in
1822 was given the wardenship of the
collegiate church at Manchester. C.
published numerous sermons. See
Raine's Lives of the Wardens of Manchester, 1885.
Calvi e fort a to and a barbour

Calvi, a fort, a tn., and a harbour on the N.W. coast of Corsica, and 45 m. N. of Ajaccio. The cltadel was captured by the English in 1794 at the time Nelson lost his eye. Some trade in wine, oil, and fruits is carried on, and it is a fishing centre. Pop. 2000.

Calvin, John (1509-64), was born at

His father, Gerard Chauvin, was notary apostolic and fiscal procureur of the county of Noyon, and intended his son for the church. In 1521 he received a chaplaincy in the cathedral of Noyon, and a few years later he was made curé of Marteville. During this time he was engaged in study at Paris in the colleges of Marche and Montaign. About this time he resolved not to take orders, and went to Orleans to study law. Here he found Pierre Olivetau, a kinsman of his, who was then busy translating some of the Scriptures, and who induced the young student to study them with him. Thence, C. went to Bourges, where he came under the influence of the famous Greek scholar, Melchior Wolmar, who further in-fluenced him in the direction of the reformed faith, though his converdefinite. In 1533 he returned to Poris, where he began to speak freely against the Roman Church and its faith, and the retired first to Saintonge and then to Angoulème. Persecution was now raging so hotly that C., having given up all his preferments, left the counup all his preferments, left the country and settled in Basel, whence, in 1536, issued his epoch-making work, the Christiana Religionis Instituto, with its famous preface addressed to Francis I. of France, in which the exfle exhorts him to support the Reformation. This work is the first attempt at a logical and complete definition and vindication of Protestantism. C. then made a short visit to Italy, where the new faith had made some headway, and here he was well received by Renée, Duchess of Ferrara. He now paid a Duchess of Ferrara. He now paid a last visit to France, where he sold the paternal estates, and set out to settle in Switzerland. In 1536 he was passing through Geneva, at which city Farel was striving hard to establish This friend enthe reformed faith. treated him to remain and help in the work, but this he was unwilling to do till Farel threatened him with the curse of God if he should neglect this clear duty. Then C. threw him-elf into the work with tremendous energy. A Confession of Faith was energy. A Confession of Faith was drawn up and approved by the people, and strict morality was enforced. But a reaction soon came against the strict rule of Farel and C., and the party known as the Libertines gained the upper hand. C. left the city and settled at Strasburg in 1539, where he married Idelette de Bure, a widow, by whom he had one son, who died in childhood. Meanwhile, Geneva was finding that even C.'s strict_rule was better than no

Noyon in Picardy. His name is the rule, and in 1540 he was summoned Latinised form of Chauvin or Cauvin. to return. He was at first unwilling to return. He was at first unwilling to do this, for his life in Strasburg was an easy one. However, he considered that in Geneva duty lay, and in Sept. 1541 he re-entered the city. Here he devoted himself for the rest of his life to the task of ordering Geneva and the Protestant theology. He established the college of Pastors, and did his best to enforce a rigid morality. He also aided the reformed churches in all countries, being in correspondence with England, France, the Netherlands, Poland, etc. In 1559 he founded the academy of Geneva. His activity was prodicious till his death in 1564. During the first fourteen years of his pastorate he was engaged in conflict with the Libertines. who were again his enemies. To the same period belong his three great controversies, with Sebastian Castellio, with Jerome Bolsec, and with Michael Servetus. The last is the most memorable. Servetus was a heretic whose views are fully ex-plained in his Restitutio Christianismi. He was arrested by the Roman Church in France, and here C. did his best to secure his condemnation. Servetus escaped and came to Geneva whence C. had promised that he should not escape alive. After a scurrilous verbal conflict, the unfortunate man was tried and sentenced to be burnt. Though the great reformer did his utmost to get the manner of death altered, the sentence was carried out.

Calvinism is distinguished particularly by its dogma of Predestination. This says that God has chosen certain souls for salvation, others for damnation, and that these decrees are unalterable. To the elect sufficient grace is sure to be given, and also the gift of perseverance. The West-minster Confession is the most comminuter concession is the most com-plete exposition of the Calvinistic faith. C. is established in the Re-formed churches, in opposition to the Lutheran, of France, Scotland, Hol-land, etc. It entered England, and gave birth to the Puritans and the numerous dissenting bodies. Thence also it reached America.

Calvinistic Methodists, see METHOD-

Calw, a 'c. in Wilstem'ers, Ger-many, health is enter extend to trader trade with Neglechnical epimeirs and weaving industries.

and weaving industries.
Calycanthacees, a small natural order of dicotyledonous plants, containing two genera in China and N. America. The species are shrubs, which are usually aromatic and have square stems; the flowers have numerous sepaloid and petaloid perianth leaves five to rumerous perianth leaves, five to numerous

stamens, numerous carpels, and an etærio of achenes as fruit. The genus Calycanthus, or Carolina allspice, is represented by three species; C. floridus, common Carolina alispice, is a fragrant plant with chocolatecoloured flowers, and its bark is used as a substitute for cinnamon. genus Chimonanthus, or Japan allspice, has two species; C. fragrans has lemon-coloured flowers which appear at a different season than the leaves.

Calyceraceæ, a small order of dicotyledons closely allied to the Composite, from which they differ in having their anthers only half syngenesious, their seeds being albuminous and pendulous. The species occur

in South America.

Calycifloræ, the name given by De Candolle to the series of plants in which the sepals and petals are separate, the petals are perigynous or epigynous and the stamens are perigynous. The chief orders include the Leguminosæ, Rosaceæ, Saxifragaceæ, Myrtaceæ, Cucurbitaceæ, and Umbelliferæ.

Calycophyllum, a small genus of Rubiaceie which contains only three species, natives of the West Indies and S. America. They are small, smooth trees with corymbs of flowers; in some cases the sepals are pink, and give the tree the colour of a rose.

Calydon and Calydonian Boar, an anct. tu. in Ætolia which, according to Pliny, was situated 71 m. from the sea on the R. Euenus. It was supposed to have been founded by Calydon, the son of Ætolus. The famous Calydonian boar, sent by Artemis to other heroes. The are sometimes said t

Castro of Cartaga. cuit of over two miles, with one large gate and six little ones. Ruins of terrace walls outside the town are thought to indicate the site where the temple of Artemis Sophira stood.

Calymene, a genus of fossil trilo-bites, common in the Silurian rocks of Europe and N. America. It is fre-quently found in Wenlock limestone

in Great Britain.

Calymma, a genus of coelenterate of the order Tentaculata and family Calymmide. The species, some of which are found near the equator in the South Seas, have strongly compressed and little elevated bodies, and are furnished with tentacles.

Calypso, daughter of Atlas, inhabited the island of Ogygia. According to Homer, when Odysseus was wrecked on her isle, she treated him hospitably and promised him immorrality if he would marry her. Shedetained him for seven years and bore | monkshood, saccate in wallflower.

him two sons, but finally the longing for home prevailed, and he left her to die of grief at his departure.

Calvotra (Gk. καλύπτειν, to conceal). the name given in botany to a hoodlike body connected with the organs of fructification. In the Musci. or mosses, it is formed from the upper half of the enlarged and ruptured archegonium, and is a membranous cap. In Pileanthus it is formed of united bracts, in Eucalyptus and Eudesmia it is a lid or operculum to the stamens, produced in the one case by the consolidated sepals, in the other by the consolidated petals.

Calyptræa, the cup and saucer limpet, is a genus of gastropod mollusc described by Lamarck. The species are numerous and widely diffused. and fossil species occur in the tertiary

strata.

Calystegia, a genus of temperate and sub-tropical Convolvulaceæ, consisting of lactescent, glabrous, twining or prostrate herbs, with solitary one-flowered peduncles. C. sepium. the larger bindweed, which grows in British hedges, has two large brac-teoles which invest the calvx, and is fertilised by a hawk-moth called Sphinx convolvuli. C. Soldanella, the sea-bindweed, is a native of European sea-coasts and some parts of Asia. The young stalks are sometimes pickled, and the juice of the plant is a cathartic.

Calyx, the term applied in botany to the external set of floral leaves, each of which is called a sepal and is usually green, but may be coloured. or petaloid, e.g. monkshood. lay waste the fields, is said to have sepals serve as a protective structure been hunted here i mportant parts of the

en coloured they attract they are separate from They have a cirone another, the C. is polysepalous, e.g. in buttercup; when united, it is gamosepalous, e.g. in primrose. When the C. is below the gynocceum, it is said to be inferior; when above, it is superior. If the sepals fall off before the flower opens, the C. is caducous, e.g. poppy; if they fall off after the flower has opened, it is deciduous; if they remain until the fruit is ripe, it is persistent, e.g. violet. The C. is frequently quite inconspicuous and rudimentary, and in other cases it is represented by a pappus of hairs, e.g. dandelion; in the apple and pear it helps to form the fruit. In describing it fully, attention must be paid to the number of whorls, number of free sepals, or lobes of sepals, and to their shape, of which the terminology is the same as that of leaves. The terms used for the general form of the C. is the same as that for the corolla, e.g. spurred, in nasturtium, galeate in

Cam, formerly called the Granta, more than one occasion on account is a river which rises in Essex, flows 40 m. N.W. and N.E. through Cambridgeshire, and flows into the Ouse, 31 m. S. of Ely. It is navigable to the town of Cambridge.

Cam, Diogo, a Portuguese navigator of the 15th century, who con-tinued the explorations of the African coast, begun by Prince Henry of Portugal. In 1484 he discovered the Congo, and afterwards explored the West African coast to 22° S. lat-

Camaldoleness, Camaldolites, also called Camaldulians, a strict religious order whose founder was Romauld, a Benedictine monk of the 11th century. The monks were divided into two classes, Cenobites and Eremites, and wore white garments. Their huts were built in the plain of Camaldoli, near Arezzo in the Apennines. As the order grew, so in time the collection of separate huts became grouped into a hamlet of cells with an abbot presiding; one common place of worship was instituted. Both Guido Grandi and Pope Gregory XIII. belonged to this order.

Camargue, La, an island in France, situated in the Delta of the Rhone. It covers an area of 150 sq. m. One third of its extent is marsh land, but on the other two-thirds wine and cereals are grown, and there is pasture land for cattle and sheep. If it were not for dikes that have been built it would be inundated. The mistral, a cold north wind, blows over this island, thereby making it healthier than it might otherwise be. Numbers of seabirds are to be found here.

Camarilla, a Spanish word originally denoting the small or audience chamber of the king, but it has now come to mean a court clique or group of favourites, who influence a pope or monarch in opposition to his official advisers and ministers.

Camarina, a tn. situated on the S. coast of Sicily. It was founded as a colony from Syracuse in 599 B.C., and colony from Syracuse in 399 a.c., and twice the people of Gela recolonised it, namely, in 492 B.C. and in 164 B.C. It was destroyed four times, by the Syracusans in 552 B.C., by the Cartharinians in 405 B.C., by the Romans in 258 B.C., and finally by the Saracens in 853 A.D.

Cambacérès, Jean Jacques (1753-1824), an eminent French legist who lived in the time of the French Revolution. He was appointed member of National Convention in 1792, but was strongly opposed to bringing the king to trial. After the fall of Robespierre, he was made president of the Convention and president of the Committee of Public C. was suspect on Safety (1794).

of his moderate views, and lost office for a time; appointed second consul under Napoleon, and subsequently created High Chancellor of the Empire, and Duke of Parma. He was partly instrumental in the compilation of the Code Napoléon. Upon restoration of Louis XVIII., he went into exile, but was recalled in 1818; he retired from office.

The tn. is situated in the prov. of

of Cambay.

Cambay, and Gulf

Bombay in Western India, and was ceded to England in 1803. Ιt covers an area of 350 sq. m. chief ---y, agates, and any ruins whic eat prosdeclined perit owing to the state of navigation. The Gulf of C. is 80 m. long and 25 m. wide. It receives the waters of eight rivers, and this tends to generate

quicksands, which make navigation dangerous. Pop. about 175,000. Camberwell Beauty (Vunessa Antiopa), a large and beautiful butterfly. rare in Britain but common in Central and Southern Europe and N America. The wings are a deep purplish brown, with outer band of black and greyish-white or yellow border. The black band contains a row of large blue spots. In addition the two small wings have two small white spots. Formerly found occa-sionally at Camberwell, when latter

was a rural place. Cambiasi, Luca (1527-85), a Genoese painter, b. at Moneglia in the Genoese At fifteen he helped his father to paint subjects from Ovid's Melamorphoses on the front of a house in Genoa. He became a great friend of theartist Giambattista Castello, whose work closely resembled his own in character. In 1583 Philip II. com-missioned him to finish a series of frescoes begun by Castello in the Escurial. C. was very dexterous with his brush, and sometimes painted with one in each hand. His best works are at Genoa.

Cambium, a single layer of cells found between the primary wood and the bast of the vascular bundles in most dicotyledonous plants, which are then said to be open. Each cell has thin walls made of cellulose, and is rich in protoplasmic contents; in transverse section it appears foursided and flattened, and in longitudinal section it is clongated. By successive division of the single layer, the cambium gives rise to other layers which form secondary wood, secondary bast, and also secondary medullary rays, so that a cambium-ring is formed internal to the bark. cambium, or phellogen, is a layer of epidermal region and forms cork.

Cambodia, one of the provs. in French Indo-China. The name C. is European, and is derived from the Kambu was the Hindu Kambuja. name of the mythical founder of the Khmers, the anct, inhab, of C. constitutes a French protectorate, and is under the control of French jurisdiction, as well as a native have a cir own

f taxes.

or the administration of justice between natives. At the head of the government is the king, who is supported by a council of five ministers chosen from the class of mandarins. France is represented by a residentin-chief, who lives at the capital, Pnom-Penh, and presides over the ministerial council, having complete authority in the matter of foreign policy, the customs and exchequer. The Buddhist religion is most popular in C., although Brahmanism is still retained at the court. The Cambodians are a superstitious race, and the worship of spirits or local genii largely prevails.

Geography.—This large tract of country in South-eastern Asia is bounded on the E. by Annam, on the S.E. by Cochin-China, and on the S.W. by the Gulf of Siam. There are two marked features in C. which add to its geographical importance. These to its geographical importance. These features are the R. Mekong and the large lake Tonlé-Sap. The lake serves as a reservoir for receiving the overflow waters of the Mckong, which becomes greatly swollen by the rains and melted snow from the Tibetan range in the month of June. At this period the lake, which is fed by an arm of the R. Mekong called the Bras du Lac, attains to a depth of 45 to 48 ft., overflows its banks, and inundates the country round for over an area of 770 sq. m. Conversely, during the dry season, when there is a shrinkage of the waters of the Mekong, the Tonle-Sap Lake also becomes greatly reduced in area, and its depth falls to an average of 5 ft. The whole of C. lies in the basin of the lower Mekong, which, entering this territory on the N., flows S. for some distance, then inclines S.W. as far as Pnom-Penh, where it spreads into a delta, and resumes a southerly course. Fishing forms the staple trade of C., for forms the staple trade of C., for Tonlé-Sap supports a fishing population of over 30,000. The fish are table the end of the floods, and are either dried or fermented for nuoc-mam sauce. Next to fishing come the agricultural products, and here rice is dept. du Nord, situated some 32 m.

meristematic cells which arises in the largely grown in the low-lying dis-Other industries are also tricts. carried on, such as the growing of the tobacco plant, coffee, cotton, pepper,

Cambrai

indigo, maize, and tea.

Climate.—Much the same as that of Cochin-China and varies with the monsoons. During the N.E. monsoon. which lasts from mid-October to mid-April, the weather is dry and warm, with a temp. ranging from 77° to 80° From mid-April onwards until October there is constant rain, and the temp. is considerably higher, sometimes reaching 95° F. Wild animals of all sorts abound, such as the elephant, rhinoceros, buffalo, tiger, panther, and leopard. Monkeys

and rats are the plague of the district, as they destroy the crops and agricul-

tural products. The people.—C. consists of three or four races. The majority are the Cambodians themselves, whilst the rest are Annamese, Chinese, and Malays. Uncivilised tribes are met with in the thiniy populated districts on the outskirts of the forests and among the mountains. The Cam-bodian men are tall contrasted with the Annamese, whilst the women are short and thick-set. They have darkbrown skins, flat faces, short noses, and black hair. Although superstitious and gloomy as a race, the Cambodians are brave in action, and their favourite pastime is hunting. Polygamy is for the most part un-known except among the wealthy classes. Class distinction is represented by caste founded on bloodrelationship. The different castes and the mandarins are exempt from all taxation and all military service. Although Buddhism is the prevailing religion, there are many converts to Catholicism amongst the Annamesc. There are ruins of many citics, palaces, and bridges near Lake Tonle Sap, which point to the prosperity of the Khmers or Cambodians in the period of the middle ages. The royal city Angkor Vat still displays its mighty ruins. War against Thais or the inhabitants of Siam, together with internal revolts and feuds, have brought about the decadence of C. The invasion of the country under Europeans completed its final overthrow, and in 1863, after renewed hostilities with Siam and Annam. C. became a protectorate under French supervision in 1867. Camboge, see GAMBOGE.

from Lille. Chief manufactures: camswitzerland, while Scottish C. is an
bric, lace, linen, thread, soap, and
imitation of real C., in which the linen
leather. It is a picturesque town, with
breed, imeeting the control of the cont leather. It is a picture-que town, with prod, incordit, it is a proving a first of the incording the incording and a picture, in archiepister and pales, and a picture of historical interest, for it was a long time under the rule of bishops. Its ancient name was Camaracum. The famous League of C. was held here in 1508. The city fell into the hands of the revolutionists in 1793, when the cathedral was the hills around makes it the natural destroyed. The bones of Fendlon were starting point in crossing the Fens ignominiously disturbed, but tribute from the Midlands. That its importwas paid to his memory in 1825, ance was early recognised is shown when a monument was erected to him in the new cathedral.

Cambresis, ancient division of the prov. of Flanders, which now forms the chief part of the dept. of Cambrai

Cambria, the Latin name of Wales. derived from Celtic Cymry or Kymry, and originally applied to both Wales and the Cymric kingdom of Strathclyde. The name also appears in the Cambrian mountains, Cumbria, and Cumberland.

Cambrian Rocks, the name given by Professor Sedgewick to a stratified by Professor Sedgewick to a stratified system of rocks occurring between the Silurian and Archæan systems which is found in a high state of development in Wales (Cambria). A famous controversy took place between Sedgewick and Murchison, a geologist who had been working contemporaneously with Sedgewick in another part of Wales, the latter maintaining that C. R. belonged in reality to the Silurian system. C. R. reality to the Silurian system. C. R. are the oldest rocks to contain well characterised fauna. The fossils found in rocks of this system include roustaceans, brachlopods, pteropods two last are the manufacturing worms, sponges, and coral, traces of marine life, worm holes and wormden that the rocks were formed by sedimentary deposition from water, although they probably never formed the bed of a deep ocean, since there is son of George III., born at Buckington and the control of the probably never formed the bed of a deep ocean, since there is son of George III., born at Buckington and the control of the cont much evidence, such as the occur-rence of ripple marks, to show that the water was not of great depth. A noteworthy fact is that in the case of the crustaceans some of the trilobites are apparently deficient in the organs,

The town lies in a level plain, on the southern edge of the Fen country, and to its position here it probably owes its existence, for the position of ance was early recognised is shown by its cationil. The are probably there at Brd on room we in Castle Hill. two items a re cross here, the tower of St. Benet's Church is one of the finest pieces of Saxon work in the country, and its importance in Norman times is well-known. The town is built chiefly on the E. of the R. Cam, and its buildings are straggling and irregular. The name is generally derived from Grantabrycoe or Grantabridge, though the intermediate stages are not extant. The town, apart from the university, is not of great importance. St. Benet's Church has already been named, and, in addition to the municipal buildings, the Templar's Church of the Holy Sepulchre and the Roman Catholic Church of Our Lady and the English Martyrs may be also mentioned. Pop. 38,393.

Cambridge, a city and one of the county seats of Middlesex co., Massachusette, U.S.A., on the Charles R. It almost forms a suburb of Boston. It is divided into various sections: Old Cambridge, the seat of Harryrd University, North Cambridge, Cam-bridge port, and East Cambridge. The two last are the manufacturing

son of George III., north at Specime-ham (then Queen's) Palace, St. James's Park. He served in the cam-paign of 1794-95, and was created Duke of Cambridge in 1801, was appointed field-marshal in 1813, and was vicerny of Hanover from 1816-37.

In Wales, Scotland, Ireland, Central Europe, and N. America, the strata varying in depth from 3000 to over 30,000 ft. The strata consists mostly III.'s seventh son, Adolphus Frederick slates, and limestones, and is usually unconformable on the older rocks of the pre-Cumbrian period.

Cambridge, George William Frederick In International Date of Queen Victoria, born in Hanover, the only son of George Villiam Frederick III.'s seventh son, Adolphus III.'s seventh son, adolphus Frederick III.'s seventh son, adolphus III.'s seventh son, adolphus Frederick III.'s seventh son, adolphus III.'s sev Cambric, the name given to fine Balaclava and Inkerman. He was white linen fabrics, originally manufactured at Cambrai in the French position of commander-in-chief from department of Nord. Some of the 1856 to 1895. His administration was best Cs. are now manufactured in marked by a conservative spirit towarm interest in the welfare of the John's, private soldier. He married an actress. Miss Farebrother, their children bearing the name of Fitz-George. See Military Life of H.R.H. George, Duke of Cambridge, by W. Verner

and E. D. Parker (1905). Cambridge, University of, is one of the oldest universities in Europe. Its origin is lost in antiquity, but fable has abundantly supplied the lack of historic documents. Laying these fables aside here, the university may be held to date from the 12th century, published annually; The Stur The first authentic records are in the Handbook to the University 13th, in 1230, when Henry III. issued Colleges various writs for the organisation Clark's and discipline of the students. Sochostels were instituted, and th students began to live together : these, under principals. These continued until the 15th and 16th These coucenturies, by which time they were all either abolished or merged in the colleges. The university is a corporate body, at the head of which is the chancellor, whose offices are frequently delegated to the vice-chancellor. The governing body is the senate, which consists of the chancellor, vice-changellor, determs of the chancellor, recognitionally of the chancellor of the chancellor of the chancellor of the chancellor. vice-chancellor, doctors cellor, divinity, law, medicine, science, (q.v.). Undulations occur in the S. letters, and music, and masters of art, where the Gog-Magog Hills, S.E. of law, surgery, and officers under the

the proctors, who registrar, etc. The council of the senate, composed of sixteen persons, which submits all subjects to the senate and has a power of veto, is elected by the resident members of the senate, known as the 'electoral roll. The colleges are also corporations in themselves, and, except in general matters, such as the management of the examinations and of the university property, are independent of the univer ity. The head of the college generally holds the title of master, and the affairs of the college are managed by him and by a committee of fellows. The scholars are termed undergraduates. These consist of pensioners, who pay full fees, receiving no emoluments from the college. The bulk of the undergraduates come under this head. Sizars re- was in the territory of the Iceni, and Cuima

Since 1869, there have been non-collegiate students, who are yet members of the university. For a stubborn resistance to the Norman further particulars see articles on the special colleges under their respective ward the Wake held out against him

wards innovations, together with a St. Catherine's, Jesus, Christ's, St. warm interest in the welfare of the John's, Magdalene, Trinity, Em-Magdalene, Sidney-Sussex, manuel, Downing. Selwyn College, a hostel for members of the Church of England, and Fitzwilliam Hall, the headquarters of the non-collegiate students should be named. Other institutions, not connected with the university, are Ridley Hall, St. Edmund's House (Roman Catholic), Westminster College (Presbyterian), and the two colleges for women, Girton and Newnham. See The Cambridge University Calendar, The Students and the J.

ini-1513-54, 1909; W. Clark's Cambridge, new ed., J. W. Clark's Cambridge Described, 1897, etc.

f fens , are the most important The south is also better

an the rest of the county. cipline and morals of the students, In the N. occurs the Bedford Level the public orator, the librarian, the (q.v.). The principal river is the Ouse, which crosses the county from E. to W., with its tributaries the Cam, Lark, and Little Ouse. The Nene, in the N., is also important. These riversflow chiefly in artificial channels of recent construction, and are extremely sluggish. The county is intersected by numerous drainage works. C. is a rich agricultural district, and the climate is on the whole healthy. The fen-land, when drained and burnt, provides good soil for various crops, and the hills are mainly chalk. The county is one of the chief graindistricts of producing England. Dairy-farming and sheep-rearing are also extensively carried on. are practically no manufactures, but brewing and brickmaking are engaged in to some extent. In Celtic times, C.

orman Connames, viz.: Peterhouse, Clare, Pem-lor some years. The county was also broke, Gonville and Caius, Trinity prominent in the intestine structed Hall, Corpus Christi, King's, Queens', under Stephen, John, Henry III.,

pre-Roman the Roman i, coins etc., and Charles I. sent from Cambridge University, one representing Wisbech, one Chesterton, and one Newmarket division. The principal towns are Cambridge (the county town), Chesterton, New-market, Wisbech, March, Soham, and Thorney. Area 859 sq m. Pop. (1901) 190,682. See Conybeare's History of Cambridgeshire, 1897.

Cambuscan, a legendary prince of Cambulac in Tartary whose story Chaucer deals with, but leaves unfinished, in The Squire's Tale. Hence Milton's reference in Il Penseroso:

Or call up him that left half-told The story of Cambuscan bold.

Spenser also treats the tale in Faërie Queene, book iv., cantos ii. and iii.

Cambuskenneth, a ruined abbey in Stirlingshire, Scotland, on R. Forth, 1 m. E. of Stirling, founded by David I

and his queen, Margaret of Denmark, were buried in the abbey, and their remains were discovered during excavations in 1864, and reinterred with an altar memorial erected over them, by command of Queen Victoria in 1865.

Cambuslang, a tn. in N.W. Lanarkshire, Scotland, situated on the l. b. of the R. Clyde, about 5 m. S.E. of It is on the Caledonian

Railway, and has large steel works and coal mines. Pop. 20,000.
Cambyses, or Kambujiya (529-521 B.C.), second King of the Medes and Persians, was the son of Cyrus the Great. After assassinating his brother Smerdis, he wished to form an alliance with Egypt, but, receiving an affront from the Pharaoh, he invaded that country and conquered it in six months. He was much given to atrocious crimes. He later a expeditions against Carth Ethiopia but both failed.

of his life are much confuse Camden, a city and port of New Jersey in U.S.A., and the cap. of C. county. It stands on the l. b. of the Delaware, opposite Philadelphia, and is a large commercial and manufacturing centre, with important foundries, cotton and woollen mills, chemical and glass works, etc. Pop. 76,000.

Camden, Charles Pratt, first Earl of (1714-94), an English lawyer and politician, was born at Kensington, and educated at Eton and King's College,

C. returns three left the case to him. He was made members to parliament, besides those king's counsel and attorney-general to the Prince of Walcs in 1755, in 1757 Attorney-General, and in 1759 recorder of Bath. In 1761 he was knighted and made Chief Justice of the Court of Common Pleas, and in 1765 was raised to the peerage as Baron C. of Camden Place, Kent. the following year he succeeded Worthington on the Woolsack, receiving an addition of £1500 to his salary as recompense for the los of his justiceship. He held the office till 1770, although he disapproved of the policy of the government. He lived in retirement till 1782, when he became President of the Council till 1783, and again in the following year till his death.

Camden, William (1551-1623), an English scholar, historian and anti-quary, was born in London, his father being a painter. His early education was at St. Paul's School and Christ's College. In 1566, he went to Oxford, which he left in 1571 without having taken a degree. In 1576 he was made second master of Westminster School, of which he became principal in 1593. The first edition of Britannia, the work which has made his name famous, was published in 1586, the result of some fifteen years' research. He was perpetually amending and improving this, and in 1607 the sixth edition was reached. It is written in elegant Latin, and was first translated into English in 1610. The best translation was published in 1789 (2nd ed. 1806) by Gough and Nichols. In 1597 C. resigned his headmastership on being appointed Clarencieux king-atarms. Other important works of his are Reges, Regina, Nobiles et alii in ecclesia collegiata Beati Petri Westmonasterii sepulti, 1600; Anglica, Hibernica, Normannica, Cambrica, tratorii carictali (1600). a veteris scripta, 1602; Actio in Hendrunkenness and committed various ricum Garnetum, Societatis Jesuilicae 3, 1607; Hiber-

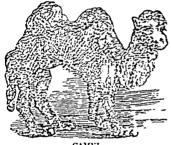
> ofessorship of ancient history at Oxford, and in 1883 the Camden Society was founded in his honour.

> Camden Town, a district of London in Middlesex, 2½ m. N.W. of St. Paul's. It is an important junction on the L. and N.W., N.L., and the L.T. and S. railways. Pop. about

9000. Camel (Arabic djemal, Heb. gamal), the name given to the one-humped Arabian Camelus dromedarius, and to the two-humped Asian bactrianus. The Arabian C. is used in N. Africa and India, as well as in Arabia; it was also introduced into Australia Cambridge. He was called to the bar The Arabian C. is used in N. Africa in 1738, but had practically no briefs and India, as well as in Arabia; it ill 1752, when he made his name as was also introduced into Australia junior to R. Henley, who fell ill and in 1860, and into N. America. It is

1615.

which is vertical in position, and this accounts for its peculiar swaying walk when in motion. The humps vary in eize, according to the condition of the animal; they become small and flaccid after many days of hardship and in-different food. It exists chiefly on the The female carries her young for eleven months, and a week after birth, the baby C. has attained a height of three feet, but it is not fullgrown until its sixteenth or seventeenth year. It lives from forty to fifty years. The power of carrying water in its stomach and living on limited quantities of food, earned for it the title 'ship of the desert.' While on a journey through the desert a C. will go for three days, doing twenty-



CAMEL

five miles every day, without water, but on the fourth day receiving a supply: the swifter breeds, for there are many varieties of the Arabian C .. will go much longer, and travel over sixty miles a day without refreshment. If too heavily laden it will sometimes refuse to rise; but while on its journey it bears its burden patiently, and will often only successful to the only cumb under it to die. If a sand-storm should arise, it falls on its knees, stretches its neck along the sand, and closing its nostrils, remains in that position until the storm has passed. In character the C. is a wild and savage animal, and it is to the fact of its extreme stupidity and passiveness, and not to any instinct of attachment to its master, that man has been enabled to make it of any service. At times the males become very fierce and dangerous, and make savage assaults on their fellows.

swifter, but not so well able to with kneel at a given signal, and is accusted the cold, as the bactrian C. tomed by degrees to carry increasing which has a much thicker coat, and loads, which may weigh anything shorter lees. The C. has a long thigh. from 50 to 1000 pounds, according to the bried of the C. which is used. have evidence that the Arabian Cs. were some of the earliest animals used for domestic purposes, for according to Scripture 600 of these beats formed part of the great pos-sessions of Job. They were also in-cluded as part of the gift that abraham received from Pharach. The flesh of the C. is a very favourite food among the Arabs; their milk also forms a good and nutritions beverage. The Arabs weave the has of the C. into various materials for clothing: it is also imported into Europe, and used in the manufacture of artists' brushes. The mounting of infantry on Cs. has proved of great advantage, as it enables the men to reconnoitre in hot, arid countries, where water is not easily found, and where horses are not of much service. European troops have often made use of Ca. in this way, when operating in India, Egypt, and the Soudan in the last twenty years. In many of the Central Asian deserts the bactrian species is to be found in its wild condition.

Camel, an apparatus used for raising a ship, so as to render it navigable in shallow water, consisting of large hollow vessels attached to the ship's side. Invented by a Russian engineer, De Witte, and much used between Kronstult and St. Petersburg.

Camellord is a vil. of Cornwall. England, situated on the Camel. 28 m. to the N.W. of Plymouth. ruins of the castle of King Arthur are situated at Tintagel, 4 m. to the N.W. The pursuits of the inhabitants are mainly agricultural.

Camelina, a genus of cruciferous plants which belong to Europe and the Mediterranean. C. dentata is sometimes found in Britain, where C. salira, gold-of-pleasure, or Siberia oil-seed, also occurs. The latter is of humble appearance, has small yellow flowers, and yields a good fibre.

Camellia, an Ariatic genus of evergreen trees and shrubs belonging to the order Ternstromiacee, with thick, dark, shiny leaves, and white or rose-pink flowers. Linnieus, the great botanist (1707-78), so named it after Camellus, or Kamel, a Moravian Jesuit, who wrote an account of these plants which grew in Luzon, one of the Philippine Is. There are several species, the best known being the C. japonier and the C. rejiculala. The former originally came from Japan, is not until its fourth year that its being introduced into England in 1739. training as a beast of burden com- Its flowers are red, and it grows to a troining as a beast of burden com- Its flowers are red, and it grows to a mences; it is then taught to rise and height of 30 ft. The latter was brought

from China, and is a much smaller plant, with large pink flowers, known as semi-double. The C. Oleifera has sweet scented white flowers, and is a fine variety. The C. sasanqua, an inhabitant of China and Japan, and the C. drupifera, from Cochin China and Japan, and the mountains of India, are both oll yielding varieties. The oil of C. sasanqua is in use for many domestic purposes, and has a pleasant odour; it is made by the crushing of the seeds into a coarse powder. The leaves of the plant are also made into a decoction and utilised by the Japanese women for their hair. The oil of C. drupifera is used for medicinal purposes. The C. is generally grown in Great Britain under glass, but in the southern parts they do well in the open. They grow to advantage in the sandy peat and loain, requiring shelter from the cold easterly winds. They are propagated by layers or cuttings, also by seeds.

cuttings, also by seeds.
Camelopardalis ('the Giraffe'), a constellation near the North Pole, between Ursa Major and Cassiopeia. It was originally discovered by Jacobus Bartschius, assistant to Kepler, 1624, and added to the actronomical maps by Hevelius (1611-87). It contains numerous but no \$11.00 to the contains of the contains o

conspicuous stars.

Camelot, the name given in mediceval romance to the seat of King Arthur. It has been identified with Caerleon-upon-Usk, and also with Winehester and Camelford in Cornwall. It is mentioned by Tennyson in The Lady of Shalott and The Idylls of the King, and by Shakespeare in King Lear.

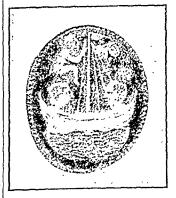
Camel's Thorn, a species of herbor shrub found in the deserts of Western Asia, where it is of importance in furnishing sustemance to camels.

Cameo, or Camaien (It. camméo). The word is of doubtful origin. It is the suggestion of Mr. C. W. King that it is derived from the Arabic camea (amulet), while Von Hammer suggests camant (hump of a camel). The word was in use in the 13th century. C. is an engraved gem in which the figures, or subject, is carved in relief, in direct contrast to the integlio, a gem in which the engraved subject is hol-lowed out, as in the manner of a seal. It was not until after the time of Praxiteles, the Greek sculptor, that C. cutting became an art. The stones used for the purpose were brought from the East, and most of them were of magnificent size and colour. Clas-sical and artistic results were in requisition, for the ornamentation of caskets, vases, cups, etc., as well as Many of for personal ornaments. these have been preserved in excellent condition, and are to be found in gravers.

various private and public collections. One of the most famons Cs. is the Gonzaga, or Odescalchi, originally in the possession of the Empress Josephine, now preserved in the Imperial



Cabinet in St. Petersburg. On it are represented the portraits of Nero and Agrippina. Another smaller but not less valuable C., is that of Jupiter fighting the Titans, by Athenion, 50 A.D., now in the Vatican. The



art of C. cutting was revived during the 15th century in Italy, and was carried on with great success until comparatively recent times, Pistrucci ending the long line of renowned engrayers. The modern C. cutters of

was great difficulty in the treating of the hard gems, also being unable to obtain a sufficient supply of the fine ones necessary for the work, began to think of some other method: hence the source of the introduction of shell cameos. The two illustrations are reproduced by courtesy of the

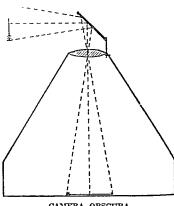
camera Lucida, an optical instru-ment constructed for various pur-ment constructed for various pur-Dr. Robert Hooke was the inventor of one about 1674, and Dr. William Hyde Wollaston brought out another in 1807. This latter one was intended to facilitate the perspective outline of objects, and consists of a four-sided prism of glass, having one angle of 90°, and the opposite angle of 153°, while the other two angles are each of 674°. The C. L. was of some importance to draughtsmen, before photography was used in that capacity, on account of its small size, which rendered it easily portable. Its chief use was in copying, reducing, or enlarging drawings. But it is not an instrument that many have been able

CAMERA LUCIDA

to use satisfactorily: some have been able to do so, but others have never been able to manage it with much facility. An instrument devised by Amici was made with a right-angled triangular prism, involving two refractions and one reflection.

Camera Obscura, an optical apparatus which consists of a dark chamber, at the top of which is a box containing a convex lens and sloping mirror. If a plane mirror is sloping mirror. If a plane mirror is placed behind the lens at an angle of 45° to the horizon so that the rays of

Italy, and other places, finding there | downwards, a true image of the object is produced: that is to say, the image appears exactly as the object, and is not perverted, as is the case when an object is viewed in a mirror. This is the principle of the C. O. Its invention has been ascribed



CAMERA OBSCURA

to Giovanni Batista della Porta, 1569, but it is a well-known fact that this C. O. principle had been recognised. and made use of, many years before his time. The C. O. was first employed in the interests of photography about 1794, by Thomas Wedgwood.

Camerarius, Joachim (1500-74), German scholar, born at Bamberg. His proper name was Liebhard, but because the office of chamberlain at the court of the bishops of Bamberg was always held by his family, he changed it to C. (Ger. Kännmerer, late Lat. Camerarius). He was one of the most distinguished philological scholars of the 16th century, and improved the organisation of the universities of Leipzig and Tübingen. He had previously, in 1530, had a considerable part in the preparation of the Confession of Augsburg, 1530. and in 1555 he was deputy of Leipzig University to the Diet of Augsburg. He was a friend of Melanchthon, of whom he wrote a biography, 1566, and was esteemed highly by the Emperors Charles V., Ferdinand I., and Maximilian II. His works were numerous, and include translations of the classics, and monographs on Greek and Latin philology antiquities.

Camerino, a tu. of Central Italy, S.W. of Macerata. It is situated on an eastern spur of the Apennines, and light would be reflected vertically has a cathedral, a university founded in 1727, and silk manufactures. Pop. | Port, Edinburgh. See Howie's Scots 12,000.

Camerlengo, sometimes Camerlingo (It., chamberlain), the cardinal who had charge of the papal treasury during the existence of the papal states. He administered justice, and during the interregnum carried on the functions of government until the new pope was elected, at the choice of whom he presided over the apostolic chamber.

Cameron, John (d. 1446), Bishop of Glasgow and Chancellor of Scotland. He became secretary to the Earl of Wigtown in 1423, who bestowed on him the rectory of Cambuslang, Lanarkshire. In the following year he was appointed secretary to King James I.; Keeper of the Pivy Seal, 1425; Keeper of the Great Seal, 1427; Bishop of Glasgow and Chancellor of Scotland, 1428. He was summoned to Rome for having made attacks on the Scottish ecclesiastical courts. C added a great tower to his episcopal palace and continued the building of the chapter-house.

Cameron, John (1579?-1625), a famous Scottish scholar and theologian. He was born in Glasgow, and studied at the university there. In 1600 he visited the Continent and taught classics and philosophy in many con-

of divinity in 1618.

Britain, and in 1622 became principal of Glasgow University. His advocacy of the divine right of kings made him many enemies, and in 1623 he re-turned to Saumur and thence went to Montauban as professor of divinity. His doctrine of passive obedience, however, still rendered him very unpopular, and he died from the effects of a wound inflicted in the streets by a political opponent. He was considered one of the most erudite scholars of his time, and was author of several theological works both in Latin and French.

Cameron, Richard (c. 1648-80), a Scottish covenanter, born at Falk-land in Fife, where he became school-master. Converted by the fieldpreachers from Episcopacy, he be-came an extreme Presbyterian, and preached in Annandale and Clydesdale. In 1678 he went to Holland. and returned in 1680 to take part in the Sanguhar Declaration, for which a price of 5100 marks was set upon his head. He took refuge with committee in the hills in preaching whenever he

opportunity, until he was opportunity, until he was by a party of dragoons at Aird's 1901).

loss, and both he and his brother were slain. His head and hands were cut off and exposed upon Netherbow Africa, extending from the mouth of

Worthies (1876) and Herkless' Richard Cameron (1896).

Cameron, Verney Lovett (1844-94). African explorer, born at Radipole in Dorsetshire. He entered the navy in 1857, served in the Mediterranean, the West Indies, and the Red Sea, and took part in the Abyssiuan expedition and in the suppre-sion of the slave trade. In 1872 he was made head of the expedition to relieve Livingstone, and left Zanzibar in March 1873, but at Unyanyembe met Livingstone's followers bearing his remains to the coast. He pro-ceeded to Ujiji, where he found Livingstone's records. and quently explored the southern portion of Lake Tanganyika. Afterwards he explored the upper reaches of the but Congo, was prevented tracing its course to the W. coast owing to the hostility of the natives. He then turned his attention to the Zambesi, of which he discovered the sources, and in 1875 crossed Africa from E. to W., being the first travel-ler to achieve this feat. In 1878 he explored the route for a Constanti-nople to Bagdad railway from Beirut to Bushire, and in 1882 visited the Gold Coast. He was killed by a fall from his horse while returning from hunting at Leighton Buzzard in Bed-He wrote, among other fordshire. works, Across Africa, 1877: Future Highway to India, 1880, and some books for boys.

Cameronians, the followers Richard Cameron, a Scottish Covewho separated from the Church of Scotland towards the end of the 17th century on a question of ecclesiastical polity. The C. refused to recognise the state control over the Church, and adhered strictly to the

the Presbyterian Church, and were officially known as the Reformed Presbyterians. The C. were bigoted fanatics, but undoubtedly acted from high motives. They refused to take the oath of allegiance, and thus cut themselves off from some of the privileges of citizenship. In 1876 the Reformed Presbyterians formally united with the Free Church, who also maintained the spiritual independence of the church of Christ. There are, the church of Christ. There are, however, in the Highlands, a few who will call themselves C. See The the Reformed Presby-1842, and Walker's Six

the Rio del Bey to a point slightly below 3° N. lat. Formerly known as the Oil Coast, the territory was demarcated by treaties between England and Germany in 1893, and between Germany and France in 1885 and 1894; and was increased in November 1911 by acquisition of part of French Equatorial Africa in compensation for recognition of French suzerainty over Morocco. It is a suzerainty over Morocco. It is a mountainous country, with a strip of low-lying land near the coast. The principal rivers are the Lom, Nyory. Lokinya, and Kribi. The part acquired in 1911 is watered by the Logone, which flows into Lake Chad, and the Sanga, which is a tributary of the Congo. The natives in the N. are Soudance negroes in the S. R. are Soudanese negroes, in the S. Bantus, the former being Mohammedans, while the latter are pagans. Agricul-ture is extensively carried on, and there is a considerable industry of native goods. The district is rich in natural products, exporting ivory, palm-oil, palm kernels, cocoa, rubber, and various woods. There is considerable rainfall, with no prolonged dry season. The colony is in regular steamship communication with Hamburg. Principal towns are Cameroon, Buea, Victoria, Bibundi, Batanga, and Campo. In 1911 was: receipts, £262,5 £1.078.500; trade

£886,150; exports, ..., and the area is some 200,000 sq. m., and the pop. about 2.500,000, of whom only some few hundreds are white, the majority being Germans, but with a

few Englishmen.

Camillus, Marcus Furius (c. 445-365 B.C.), a celebrated Roman patrician and general. He was censor, or, according to Livy, consular tribune in 403 B.C. In 396 he took Veii, which had withstood a ten years' siege, and in 394 he captured Falerii. Being condemned on the ground of misappropriating the booty of Veii, a decision which was caused more by his unpopular heavestires a then grill he popular haughtiness than guilt, he retired to Ardea in 391. It is reported that he returned in the nick of time to stop Brennus from taking the Capitol. He opposed the desire of the plebs to move to Veii, and was largely instrumental in rebuilding the city. During subsequent campaigns he vanquished the Equi, the Volsci, and the Etrusci, and finally, in 367 B.C., the Gauls, near Alba. During his life he was elected military fribune with con-sular powers six times, and five times dictator. He died of the plague.

Camisards, the insurgent Huguenots or Protestants of the Cevennes. so called from the camise or white shirt which formed their uniform.

revocation of the Edict of Nantes by Louis XIV. in 1685, and their zeal was fanned by the ruthless Dragonnades, or quartering of dragoons upon Protestant households and the accompanying acts of crueity in order to enforce conversion to the Catholic faith. At first consisting only of isolated outbreaks, the movement became of greater importance owing to the murder in 1703 of the Abbé du Chaila, who for fifteen years had proved the most heartless persecutor of the oppressed people. A general of the oppressed people. A general insurrection followed upon this event, and the rebels, now numbering some 3000, were able to maintain themselves in the mountains against the royal forces. The defeat of some royal forces. The defeat of some small detuchments of soldiers led to Marshal Montrevel being sent to the district with an army of 60,000 men. The C. were, however, led by a youth of great military capacity named Jean Cavalier, and though the royal army burnt over 400 villages, Cavalier managed to increase the scope of the revolt. In 1704 Montrevel was superseded by Marshal Villars, who wisely adopted more conciliatory measures, pardoning those that surrendered and releasing all prisoners that swore allegiance, while his troops scoured ountry in all directions, and

band after band of the insur-to submit. In May 1704 ditions offered, and left the country, with many of the more moderate C. A few zealots still held out, and the rising was again renewed in 1705, owing to the severity of Villars' successor, the Duke of Berwick, but was put down with an Iron hand, and the province entirely devastated. Cavalier and many others took service with the English and fought at Almanza in 1707, where most of them perished. Cavalier, however, came to Britain, and became governor first of Jersey and then of the Isle of Wight. See Mrs. Bray's Revoll of the Profestants of the Ceremes, 1870.

Camlet, a cloth made in the middle

ages from camel's hair, but now usually from the hair of the Angora goat, mixed with silk, wool, cotton, or linen.

Camoens, Luis Vaz de (1524-80), the most celebrated of Portuguese poets, was descended from an ancient noble and wealthy house, and belonged to one of the highest ranks of society. The exact place of his birth is disputed, but it is almost certain that he was born at Lisbon. By this time the full flood of the Renaissance was making itself felt in Europe, and among other countries Portugal was benefiting from the desire for further and fuller knowledge which seemed They rose in revolt against the at this time to fill all men. C. was classics. He had an excellent memory, and little that he learnt was ever forgotten. He proceeded ot and there was upon which he was not able to speak with some authority. He knew well the contemporary literatures of Spain and Italy, he had read much history, and altogether we can say that his great poem gives evidence of his universal knowledge. He came then to Lisbon, which city made a firm and lasting impression on him, an impression which in his great poem he immortalised. He found easy entrance into the highest society, and he quickly came to be recognised as a poet of no mean titlent. In 1544 he fell violently in love with Catherine de Ataides, the daughter of a high official at court. This lady was the inspiration of many of his most impassioned sonnets, and has been aptly described as his Reatrice. He was introduced at court, and here whilst he made many friends he also made enemics, and his too open passion quickly heeame a matter of gossip. He left the court, but his voluntary exile was restless, the verses which he wrote at this time show him to be now exuberant, now in the deepest depths of despair. Many of his sonnets and roundels were written at this time, and from this period also dates the greater number of his eclogues. He was now also employed in the composition of his great patriotic poem the Lusiadas, but his love affairs were still unsettled, and he was finally forced into exile. His he was finally forced into exile. His exile was hastened by the production of El Rei Selenco. In his place of exile he composed The Elegy of Exile, and a number of beautiful sonnets. He now became a soldier, and in 1547 we find him in Ceuta, where he remained for the next two years still pouring forth verses, some despairing and sad others philosophical, he him. and sad, others philosophical; he himself seems to have been buoyed up by the memories of the past. In 1549 he prepared to go to India, and for that purpose he returned to Lisbon; once there he found it impossible to drag himself away, and he remained to be near his love. But he indulged at this time in wild extravagances which finally landed him in prison. was pardoned, and proceeded to India. He sailed in 1553. In some poems he describes the voyage, which probably was not without its influence on the Lusindas, since after this date the discovery of India becomes the main theme. The Portuguese were at this time dominant in to the plague which was ravaging

educated at the college of All Saints the East, and although C. was well at Coimbra and steeped himself in the literature and mythology of the with his life at Goa. Between 1553 classics. He had an excellent memory, and 1555, he saw a fair amount of and little that he learnt was ever fordescribed in the Lusiadas. He did not, however, stay at Goa, but travelled to many places in the East, usually to perform some military duty. He wrote whilst there Desparates na Filodemo, and Satrya do India, Torneio. fortune, but now fortune turned against him. After waiting at Macao for a ship to take him back to India. he was imprisoned for intrigue, and he was shipwrecked whilst being brought back a prisoner to India. He managed to save his Lusiadas, but remained a prisoner at Cambodia where he composed his famous 'By the Waters of Babylon.' Still a prisoner he was taken back to Goa. where he heard for the first time of the death of Catherine. It was on this occasion that he produced his famous sonnet Alma Minha Genlil. He re-mained a prisoner for some time, being finally released when a friend of his became governor, and again for a short time he was imprisoned for debt. He was now very poor, but seems to have remained in India living a fairly happy life and working at his great poem. For three years he was thus employed and finally the poem was finished, and his ambition became to go buck to Portugal and print it. In 1567 he got as far as Mozambique, but here again he was imprisoned for debt for two years, and finally by the charity. of friends he was released from prison and sailed for home. He reached Portugal in 1570. He found his mother ready to welcome him; his father was dead, and now having regained his home he set about obtaining permission to print his poem. Permission was given in 1571, and the book appeared. It was re-ceived with acclamation by every-body. Praises poured into him from everywhere. He was granted a substantial pension for three years, a period which was later extended, and he lived for a time in peace and enjoyment. In 1575 he fell, for a short time, into helpless poverty once more, but the renewal of his pension In 1575 he fell, for a soon set him right again. In 1578 came the disaster of the battle of Alcacer, and C. mourned the loss of his patron and king, Sebastian, in a magnificent sonnet. Early in 1580 the cardinal king died, and C., who saw the vanishing of Portuguese indedesire to live. ir the last of a e fell a victim

the discovery of India and the greatness of Lusitania. See Life by Theophile

Braga. There is an English Life by Adamson and shorter notices with most of the translations of his poems, among which the best are by Burton and J. J. Aubertin. The older translation by Mickle is not faithful.

Camomile, or Chamomile, a genus It is a herb native of Composite. to England and Western Europe, and cultivated for medicinal use. grown largely at Mitcham in Surrey, where far more valuable plants are produced than any brought from foreign countries; it is also in-digenous to Saxony, France, and Belgium. Its flowers in the cultivated state are said to be double, and the most satisfactory results are obtained from the largest, whitest, and most perfected double flowers. The flowers have a very fragrant odour, with an intensely bitter taste. In addition to the bitter extraction that is yielded, the C. also produces about 2 per cent. of a volatile flui 1, which at first is pale blue in colour, but on exposure to the light it turns yellowish-brown. The odour is fragrant, like the flowers, and it is composed of butyl, amyl ange-lates, and valerates. The most important species of the genus is A. nobilis, from which an infusion of its flowers is obtained, and used as a bitter stomachic and tonic. In olden times it was used in fevers, but now other more effective remedies are in use. In large do-es the infusion acts as a simple emetic. as a simple emetic. Other British varieties are of no account; one of these (A. Cotula), known stinking C., is so pungent as to ลา the fingers. A foreign variet tinctoria) yields by its flowers a beautiful dye. The wild C. (Matri-

not bitter, and with less odour. Camorra (Sp. camorra, a quarrel), secret society established about 1820 by prisoners in the Neapolitan dungeons to protect themselves against the brutalities of their gaolers. The associates on their release transferred their practices to Naples itself, and in a few years the C. became a powerful organisation, practically front and 190 vds. depth controlling the life of the city, space is required for ea Smugaling, robbery, blackmail, all field-hospital, engineer, went on under its rules, traders have ing to pay heavy sums for permission to carry on their business, and the

Portugal. His greatest work was the of illegal lotteries; but while it rehas been mained non-political, it was un-Portugal. | molested by the authorities. Indeed, both ministers and police sometimes invoked its assistance, and men of high station leagued themselves with In 1848, however, it adopted lutionary ideas, becoming a revolutionary political as well as criminal organisation, and controlling all elections. During the 'sixties' it carried on practically a reign of terror, but after years of struggle its power was broken by the government in 1877. Even then, however, it by no means became extinct. In 1900 so many Camorristi were proved to have attained high offices that the Neapolitan municipality was superseded for some months by a royal commission. In 1901 the Camorrist candidates were utterly defeated by the Honest Government League. Five years later a double murder by some Camorristi led to the arrest of forty conspirators. their chief being Enrico Albano. Witnesses' lives being unsafe at Naples the court was removed to Viterbo, and the trial took place in 1911, several prisoners receiving long sentences of imprisonment. Camp is a collection of tents or huts

which is used to lodge soldiers on a campaign or during field manœuvres. The 'C. of exercise' is slightly different in nature, and will be described later. The size of European armies renders it impossible for tents to be carried for the troops, and cantonments and bivouacs (q.v.) take their place. But when the force is comparatively small, and stationed in a hot country, the troops are still placed under The space required by a canvas. battalion of British infantry at war ınd 280 vds. tents come

the parade ground, 80 yds. deep, comes next; then the men's tents, followed by the caria Chamonilla) is sometimes employed as a substitute for the cultivated variety, but it is easily distinguishable, its flowers being single, field kitchens, the officers' tents, and the baggage-waggons and horses; to the rear of all are the tents of the rearguard. The space required by a cavalry regiment is 186 yds. front and 255 yds. depth. The formation of the tents is similar to that used in an infantry regiment; the horses are fastened by means of picket ropes laid down between the tents. If the camp is pitched for one night only, less space is required. The space required by a battery of field artillery is 100 yds. front and 190 vds. depth; a similar space is required for each unit of ordnance-

society derived a large revenue from different coloured lamps at night. disorderly houses and the promotion Thus a field-hospital has a white flag

with a red Geneva cross, or a red the latter and was surmounted by a lamp; a commissariat and transport C. has a blue flag with a white centre, or a green lamp; an ordnance store C. has a blue flag with a red centre, or a yellow lamp. When near the enemy, on active service, the tactical considerations are of paramount import-ance; the C. must be so arranged that the troops can be in fighting order on the shortest notice. When this is observed, the C. should also have, if possible, a supply of good water, and fuel, etc.; the ground should be firm with good natural drainage; and access should be open to good roads. When lakes of the Campagna are craters of

pose of combination manœuvresunder war conditions, this is termed a C. of exercise. All the ordinary requirements of a good C. site, as mentioned above, should be complied with, and in addition a wide expanse of fairly wild and changing country is The British government necessity. has acquired such an expanse on Salisbury Plain, and seven Cs. exercise have been instituted: Aldershot, Colchester, Curragh, Shorncliffe, Strensall, Salisbury Plain, and Stobs. Artillery of the various grades, field, mountain, siege, and garrison, have Cs. at Okehampton, Hay, Lydd,

and Devonport respectively.

Camp, Roman. The Romans were the first nation to carry the act of encampment to any degree of perfection; their camp was the same in octline from the time of Polybius to the fall of the empire, and was in form as follows. The camp was an exact square of 2017 Roman feet in The via principalis, or principal street, was 100 ft. wide, and was

portion of the middle of the v prætorium, or were four gates

each end of the main street, named porta principalis derira (right principal gate), and porta principalis sinistra (left principal gate). The cate facing the pratorium was the porta pratoria (prætorian gate), that at the back the porta decumana (decuman The space between the porta gate). pratoria and the via principalis Was occupied by two legions and their allies-18.000 in all. On a level with the pratorium were the quarters of the consular guard (horse and foot), the legates, and the quæstor. hind the prætorium were the extra-ordinaries and strangers. The whole

For plan see next page. palisade.

Campagna, a tn. in the dist. of Salerno, Italy, seat of a suffragan bishopric; 16 m. E.N.E. of Salerno and 13 m. S.W. from Conza. Pop. 9000.

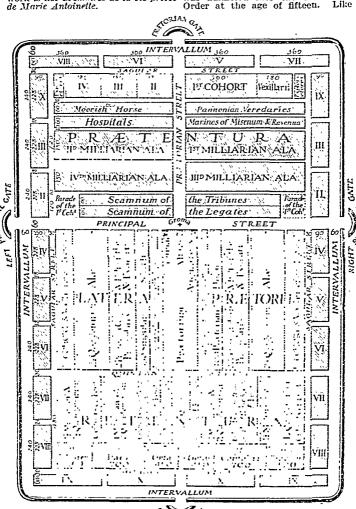
Campagna di Roma is an Italian region, stretching along the Tyrrhenian Sea from Civita Verchia to Terracina, and having the Alban and Sabine Hills as an eastern boundary. This tract, which comprises most of ancient Latium, is from 30 to 40 m. wide and about 100 m. long. extinct volcanoes, judging from their conical form and the hard black lava which in some cases forms The 'emissarium' of Lake shores. Albano still answers its original purpose as an aqueduct. The lake of Solfatara is composed of the waters of hot sulphur springs, and has islands formed of calcareous deposit. This now deserted plain formed in olden times no inconsiderable part of ' the splendour that was Rome,' as is attested by the numerous ruined towns to be found there. In those times the Campagna was well populated and very fertile; but it was only by the skill and care of the ancient inhabitants that it was made so, and even then many of the towns in the district were unhealthy at certain seasons, according to Livy, Strabo, Cicero, and others. The main cause, however, of the marked changes, is the increased malignity of malaria. This is doubtless due to the repeated devastations which the land undergone from the hands of the Goths, the Vandals, and the Longobards, and more recently from the Since the Normans and Saracens. situated about two-thirds of the dis- land belongs mostly to the church, tance down one 'he popes have attempted

its condition, and the ernment has taken Drainage has been and embankment of the

rivers, and large numbers of encalyptus trees have been planted. Attempts have also been made to extirpate the mosquito, which is by some considered to be the carrier of malaria. The few inhabitants at present on it rear horses, buffaloes, cattle, sheep, and goats; a few cereals and some fruits are grown.

Campan, Madame Jeanne Louise Henriette (1752-1822), French authoress, was born at Paris. She was ap pointed reader to the daughters of Louis XV. in 1767, and Marie An-toinette later made her first lady of the bedchamber. She kept a school camp was surrounded by a vallum for young ladies at St. Germain until (rampart) and a forsa (ditch); the 1807, when Napoleon Bonaparte former was composed of earth from founded a school at Ecouen, and appointed her principal thereof, a. Campanella, Tommaso (1568-1639), post which she held until the abolition an Italian philosopher, was born at of the school by Louis XVIII. She Stilo, in Calabria. Whilst still quite died at Nantes. Her best known young he showed great talent, and work is her Mémoires de la vie privée was admitted into the Dominican de Marie Antoinelle. Order at the age of fifteen. Like

Campanella, Tommaso (1568-1639),



ROMAN CAMP

Bacon, of whom he was a contem-, R. Sele is rather malarious, the region porary, he 'took all knowledge for as a whole is very fertile. his province, but specialised in philosophy. He was opposed to the doctrines of Aristotle, and in his Philosophia Sensibus Demonstrata, published at Naples in 1591, he endeavoured to show that philosophy should be grounded, not so much on a priori conceptions, as on the observation of the natural world. travelling to Rome, he proceeded to Florence, where he was well received by the Grand-Duke Ferdinand. turning to Naples in 1598, he was in the following year arrested in Calabria. whither he had gone on a visit, on a charge of conspiracy against the Spanish government, which then held sway over Naples. He was accused of having schemed to obtain Turkish assistance in making himself the ruler of Calabria. Though there does not appear to have been any evidence against him, he was imprisoned, tortured, and condemned to perpetual confinement. Whilst in prison he wrote many philosophical treatises. Pope Urban VIII. procured his removal to Rome in 1626, and in 1629 he was set free and given a pension. He betook himself in 1631 to France, being afraid of further persecution; he was received with honour by Louis XIII. and Richelien, and was an honoured figure among the savants of that country. He devoted himself to philosophic studies until his death, which occurred at the monastery of his order in Paris. He attempted to form a philosophy of history and politics, the principle of which was the general progress of man leading to a millennium. Among his numer-Sensu Rerum et Magia Solis, 1643; Philosop

Campanha, a city in the State of Minas Geraes, Brazil, 190 m. N.E. of Santos, and about 120 N.W. of Rio Janeiro. It is the centre of a mining district, and has hot springs in its vicinity. Pop. 12,000.

1638.

Campani, Matthew, an Italian physician of the 17th century, was cure of a Roman parish. He was also of a Roman parish. interested in astrology and astronomy, and had great skill in manufacturing the glass for the lens of telescopes. His brother, Joseph C., was occupied with similar pursuits, and left works treating of them.

Campania was the ancient name of a famous province of Italy: as a territorial division it now includes the provinces of Avellino, Benevento, Caserta, Salerno, and Naples. The Neapolitan Apennines traverse the region, running parallel to the coast. Though the district drained by the commenced in 888, and on July 14,

in cipal river is the Volturno, which flows into the Tyrrhenian Sea at a point midway between the Gulf of Gaeta and the Bay of Naples. C. has always been densely populated, and the province of Caserta is the most beautiful, as it is the most fruitful part of Italy. The chief products are wheat. maize. wine-the famous Falernian' of the Romans, hemp, The fields silk, sulphur, and fruits. of C., with their luxuriant crops. poplar trees, and canopies of vines, caused Goethe to remark that 'there it is worth while to till the ground. The area of the province is 6289 sq. m. In Roman times the district was the scene of many legends; Lake Avernus and the Sybil's Cave were situated there. The aristocracy of situated there. Rome built magnificent country-Nome but magninent country-houses in the interior, to which the Appian and Latin ways led. The oldest part of all is situated round Cumme $(K\psi\mu\eta)$, a Greek settlement, and is associated with such names as Cicero, Augustus, Nero, etc. All the names of cities are rich in classical associations-Putcoli, Cume, Naples, Salernum, Capua, Beneventum, Nola, Then there are the three unfortunate cities buried in the eruption of Vesuvius in 79 A.D., Herenlaneum, Pompeii, and Stabiæ. Before the time of the Romans, the Oscans, followed by the Etruscans, were masters of the district; in modern times it has been part of the kingdom of Naples. Pop. 3,500,000. Campanile (It. 'steeple,' or 'bel-

fry ') is a term applied to the towers which are erected in close proximity, not attached to very many in Italy. They are of con-

· height, rectangular in shape. and graceful in design. The leaning tower of Pisa is perhaps the best known, owing to its remarkable deviation from the perpendicular. It was begun in 1174, the architects being Bonano of Pisa and Wilhelm of Innsbruck. Eight stories, each surrounded by columns, form the tower, which inclines almost 13 ft. from the perpendicular. Giotto designed a C. at Florence in 1334, which rises to a height of nearly 300 ft., and is adorned with many bas-reliefs and statues of an allegorical nature. The C. of St. Mark's at Venice was the best in design: eight stories in height, and tapering in design, an open 'loggia' of marble, containing five huge bronze bells, surmounted by a statue of an angel in copper, formed the beliry itself. From base to crown it reached a height of 325 ft.: it was

completed in 1349, after having been

Bologna.

Campanology, see Bell.
Campanula (dimin. of Lat. campanula (trachea. Campanulate plants are all herbaceous, have usually a milky latex in the stem, and may be annual or biennial, though most of them are perennial. Of them all perhaps the commonest in Britain is C. rotundifolia, called in Scotland the bluebell and in England the hare-bell; the graceful stem and the delicate hue of the flower make it one of the daintiest members of our flora. The flowerjuice yields a very good blue ink, and when mixed with alum a green one. C. pyramidalis, the chimney-plant, is C. pyramidates, the cinimer-plant, is indigenous on rocks and walls in Carinthia, Carniola, and Dalmatia, but is often cultivated for its tall raceme of beautiful flowers, when the plant attains a height of about three! feet. C. medium, the Canterbury or Coventry bell, is a native of Central Europe, and is a biennial from which have been obtained many varieties differing greatly in size and colour. C. trachelium, the nettle-leaved bellflower, is a European species with large blue bell-shaped flowers; C. glonerata, the clustered bell-flower, occurs in England in both a wild and cultivated state; C. rapunculus, the garden rampion or ramps, has an edible root, and the leaves are sometimes used in salads ; C. latifolia, the broad-leaved bell-flower or haskword, is found on dry mountain pas-tures; C. rapunculoides, creeping bell-flower, occurs in the N.; C. patula, the spreading bell-flower, frequents hedges and thickets. C. murialis, a wall species; C. Americana, a very tall species; C. erinus, a forked plant; and C. macrostyla, a long-styled

1902, it collapsed without any warning. Among other examples of Cz. species flourish in warm climates. The may be mentioned the Torre degli calyx consists of five sepals, the Asinelli and the Torre Garisenda at Bologna.

are stationary.

Campbell Family. In 1280 Colin
Mor C. of Lochawe was knighted by
Alexander III., and in 1445 Sir
Duncan received a peerage. The
earldom dates from 1480, the marquisate from 1641, and the dukedom from 1701. The present Duke of Argyll married Princess Louise, daughter of Queen Victoria. The C.'s of Breadalbane, Cawdor, and Loudon are cadet branches of the great clan.

Campbell, Alexander (1788-1866), an American preacher, was born in Ireland. In 1809 he went to America to join his father, a Presbyterian minister, who had formed a 'Christian Association' at Washington to promote Christian unity on evangelical principles. In 1811 Alexander became minister at Bethauy, Virginia, and in 1812 succeeded his father as leader of the new church, self-named 'Disciples of Christ, generally known as Campbellites. Teaching baptism by immersion, he yet fell out with the Baptist churches of Virginia and Pennsylvania, and subsequently with the whole Baptist connection. From 1841 to his death he was president of Bethany Collece, he also travelled and lectured in the States and in Great Britain, and held some memorable debates with Presbyterian and other opponents. was for some time an anti-slavery advocate, but changed his views, and in The Millennial Harbinger (1830-63) opposed emancipation. prominent topic, however, was the approach of the Second Advent, which he predicted for 1866.

annual sometimes known as the candelabrum bell-flower, are all examples of the genus which flourish in British gardens.

Campanulaceæ, an order of dicotyledonous plants to which the order tyledonous plants to which the order was summoned in 1638 to London by the control of the control of the control of the control of species are occasionally trees or the Covenant with Charles I. He shrubs, but more often they are herbs advised the abolition of those innova-

tions which had been made in the pension of £2000. Three years later constitution of the Scottish Church. he was buried in Westminster Abbey. His father died in the same year, and his lather due in the same year, and he succeeded to the earldom. At the meeting of the General Assembly at Glasgow in 1638 he openly joined the Church against the Court, and took up arms in support of its cause. In 1639 he negotiated the peace of Berwick between Charles I. and the Scots and in 1641 compelled him to Scots, and in 1641 compelled him to accept the terms of the Scottish Parliament. He was defeated by Montrose at Inverlochy and at Kilsyth, 1645, but succeeded in routing his army at Philiphaugh later in the same year. In 1646 Charles surrendered himself to the Scottish army, and C. negotiated with him at Newcastle, and with the English Parlinment at London. He took a leading part in the installation of Charles II.. whom he crowned at Scone, 1651; but afterwards submitted to the usurpation of Cromwell; and during the protectorship of Richard Cromwell sat in parliament for the county of Aberdeen. As a result of these actions he was charged with high treason at the Restoration, was convicted, and beheaded May 27, 1661. Campbell, Archibald (c. 1726 - 80), an English satirist, who began life as

an engines saturist, who began life as a purser on a man-of-war. In 1767 he published anonymously Lexiphanes, a Dialogue in imitation of Lucian ... to correct as well as expose the affected style ... of our English Lexiphanes, the Rambler, and The Sale of Authors, in which Gray, Sterne, Hervey, and others are ridiculed. The History of the Man Sate of Autors, in which stars, Sterne, Hervey, and others are ridiculed. The History of the Man after God's own Heart has also been ascribed to him. C. died at Kingston,

Campbell, Sir Colin, Lord Clyde Campbell, Sir Colin, Lord Clyde sity, 1854; and president of the Royal (1792-1863), was the son of a Glasgow; Society of Edinburgh, 1861. In carpenter, but his maternal uncle politics he was a strong Whig, but Colonel C. provided his education; opposed to Home Rule. He became and in 1808 procured him a commission. He fought at Walcheren and through the Peninsular War, earning active service and garrison duty, he became licut-colonel in 1837, and regyll and Duke of Greenwich (1678-for brillight services in the second 1743) was the son of Archibald C. a captaincy. After thirty years of active service and garrison duty, he became lieut-colonel in 1837, and for brilliant services in the second Sikh war, particularly at Chillianwallah and Goojerat, was made K.C.B. and appointed in command was made! at Peshawar. Here, in 1849, he spoke of himself as 'old, and only fit for retirement,' but a few years later he commanded the Highland Brigade in the Crimea, and won fresh laurels. In the Mutiny year, when appointed by Palmerston commander-in-chief in India, he started from London next day, and within a few months stamped rd Clyde '

Campbell, Rev. Colin (b. 1848), Scottish minister, educated at Camp-beltown parish school and at Glasgow University; first holder of the Walter Scott scholarship in English literature, classics, and philosophy. He frequently officiated before Queen Victoria at Balmoral Castle and Crathie parish church from 1883-1900. C. has been minister of the parish of Dundee since 1882. Among his publications are: Critical Studies in St. Luke's Gospel, 1891; Sennofer's Tomb at Thebes, 1908; Two Theban Queens, 1909; Two Theban

Princes, 1910. Campbell, George (1719-96), Scottish divine, was born at Aberdeen, and educated at Marischal College. He was apprenticed at Edinburgh to a writer to the signet, but left the law in 1741 in order to study divinity. He became principal of Marischal College in 1759, and professor of divinity there in 1771, in which year he also became minister of Greyfriars. The work by which he is principally known is his Dissertation on Miracles, a reply to Hume, published in 1762. His Philosophy of Rhetoric, published in 1762, shows sound learning and good critical judgment. His other works include a new translation of the Gospels (1789), and Lectures on Ecclesiastical History, published four years after his death, in 1800. Campbell, George Douglas, eighth Duke of Argyll (1823-1900), a British

statesman. He succeeded his brother as Marquis of Lorne in 1837, and to the dukedom in 1847. He was elected chancellor of St. Andrews University, 1851; lord rector of Glasgow University, 1854; and president of the Royal

1743), was the son of Archibald C., first Duke of Argyll. He entered the army, 1694, and served in Flanders 1702. Under the Duke of Marlborough he distinguished himself at the battles of Ramillies, Oudenarde, the battles of Ramilles, Oudenarde, and Malplaquet. In 1711 he became ambassador and commander-in-chief in Spain, and in 1712 commander-in-chief in Scotland. He defeated Mar at Sheriffmuir, 1715; and crushed his rebellion in 1716; and was created Duke of Greenwich, 1719. In politics he changed sides segral times rd Clyde 'he changed sides several times, returned attacking Walpole in 1738. He was warded a deprived of his offices, 1740; restored, 1742, but soon retired from public | Eton and at Edinburgh Univ.

Campbell, John (1708-75), was born at Edinburgh, but came to London at the age of five years. He first served in an attorney's office, but soon relinquished law for a literary career. In 1754 the university of Glasgow conferred upon him the degree of LL.D. His chief works are: The Military History of Prince Eugene and the Duke of Marlborough, 1736; Travels and Adventures of Edward Brown, 1739; A Concise History of Spanish America, 1741; Lives of the English Admirals and other eminent British Seamen; On the Present State of Europe, 1750; and A Political Sur-vey of Brilain, 1774.

Campbell, John, Baron (1779-1861), Lord Chancellor of England, son of the Rev. George C., of Cupar, became a law-student at Lincoln's Inn. and was called to the bar in 1806. For nine years he occupied himself in reporting nist prius cases, which he afterwards published with notes. His private practice as a barrister was not very successful, but K.C. in 1827, he entered as member for Stafford in

was re-elected in 1831. He made his mark as a practical man of business, and was concerned in many useful measures, mostly connected with the rectification of abuses. He strongly supported Lord John Russell's first Reform Bill, and in 1832 was knighted and appointed solicitor-general. ting for Dudley, 1832-34, he was then elected at Edinburgh and represented that city until 1841, taking part during this period, as a Whig, in many fierce contests, especially concerning the abolition of church-rates and the reform of ecclesiastical courts. following year he became Chancellor of Ireland, with the title of Baron C. of St. Andrews. He resigned the chancellorship a few weeks later, and house of facts, it is frequently inaccurate, prejudiced, and unfair, especially when its author is referring to his own contemporaries. Wetherell said that C. had 'added a new sting to death.' As a judge he was learned, careful, and honest, but as a statesman wanting in broad and generous views, being always thoroughly partisan. Campbell, John Francis (1822-85).

of Islay, Argyllshire, was educated at

Having an enthusiastic love of his native district, he spent a great part of his leisure in collecting and arranging its songs and folk-lore; mixing with the people as one of themselves he was completely in their confidence, and got together a large number of legends which he published under the title Popular Tales of the Western High-lands (4 vols. 1860-2), also other Gaelic stories and ballads, Leabhair na Fenine (Book of the Fians), in 1872. It may be mentioned that he strongly discredited the authenticity of Macpherson's Ossian. He was a student of geology, meteorology, and allied sciences, publishing several volumes of travel and observations; he also invented the sunshine recorder now so largely in use.

Campbell, John McLeod (1800-72), Scottish divine, son of the Rev. John C. of Kilninver, Argyllshire, was educated at Glasgow and Edinburgh, and licensed as a preacher in 1821.
Soon after 1825 his teaching on the doctrine of the Atonement aroused vistility that in 1830 he was with heresy. The General

considered the offence proved, and removed him from office. He then went on an evangelical mission to the Highlands, and afterwards ministered at Glasgow in a large chapel erected by his supporters. In 1856 he published his famous book The Nature of the Atonement, which was very widely read. In 1859 ill health compelled him to resign ministerial duties, but he continued to write.

Rc He y in 1876. He was vice-president of the In 1840, as attorney-general, he conducted the prosecution of Frost and now (1912) president of the Belfast other chartists, who were found Methodist College, dean of residences guilty of high treason, and in the lat Queen's University, and commissions to be a constant of the series of the serie

Campbell, Rev. Reginald John (b. devoted his leisure to writing The 1867), Congregational minister. He Lites of the Lord Chancellors and has been minister at the City Temple, Keepers of the Great Seal, a work London, since 1903. His book, The which brought him both fame and New Theology, published in 1907, obloquy. While valuable as a store cutive ociety.

He writes for various periodicals.
Campbell, Thomas (1777-1844), a Scottish poet, b. in Glasgow. He was educated at the grammar school and university of his native town, and in 1795 went to the island of Mull as a tutor. Two years later he settled in Edinburgh to study law, but he found the occupation little to his taste, and instead wrote The Pleasures of Hone. interest lies chiefly in the fame they once achieved. His war songs, I'e Mariners of England, Hohenlinden, The Battle of the Baltic, are written with a fine energy, and are, for stirring patriotism, unequalled in our language. C. died at Boulogne, and his body was buried in Westminster Abhey. See the Life and Letters, ed. by Beattle, 1859; Redding, Literary Reminiscences of Campbell, 1869; a short life by Cuthbert Hadden in the Famous Scots Series. 1900; and Poctical Works, edited by Hill. 1891. Campbell-Bannerman. Sir Henry

C.-B. was the second son, and was educated at Glasgow High School and Glasgow University, where he had a brilliant career. After leaving Glasgow he went to Trinity College, twice contested Stirling C. - B.

which appeared in April 1799, and secretary to the War Office and rewent through four editions within a tained his post until the fall of the went through four editions within a rear of publication. In 1800 he travelled on the Continent for some months, and visited Munich, Leipzig, and Copenhagen. While he was staying at Hamburg he witnessed the Scottish affairs. He was again active part in the debates in the Commons on the War Office and Commons on the War Office and Scottish affairs. He was again financial secretary for war, 1880-2, secretary to the Admiralty 1882-4, and was given cabinet rank in 1884, three years later received a pension from the government of £200 per annum. During his period in London he wrote continuously. He contributed articles to the Edinburgh Environment of the New Monthly Magazine, compiled The Annals of Great Brilain from George II. to the Peace of Amiens, and published Specimens of Brilish Pocks, for which he wrote biographies and an introductory essay on poetry. C.'s longer ductory essay on poetry. C.'s longer ductory essay on poetry. C.'s longer function of IV yoming, 1809; Theodoric, 1824, are not much read now. Their but he was prevailed upon to remain interest lies chiefly in the fame they in the party, and the speakership. her; in the party, and the speakership.

Ye fell to Mr. Gully. The years which
den, followed were years of great diffitten culty for the Liberal party. There
stir- were grave differences of opinion even between the leaders as to the policy to be adopted; the party were for the time being impotent, and when Harcourt resigned the leadership in 1898, C.-B. was selected for the vacant post. The outbreak of the Boer War, the opposition of Sir Henry to the imperial policy of a section of the Liberal party, led to still graver differences, but in 1901 a meeting of the street was in 1901 a meeting of the street was incomed and section of the s (1836-1908), Liberal prime minister, the party unanimously and enthur He was born on Sept. 7, the son of siastically confirmed him in his Sir James C. of Stracathro, who was at one time Lord Provost of Glasgow.

C-B. was the second son, and was well, and after 1902 it was always observed to the second son, and was provided the control of the second son and was always and the second son are second son and was provided to the second son and was always and the second son and was provided to the second so possible to say that the reward was in sight. The controversial measures of the government were unpopular. The bye-elections showed that the country was growing tired, and the Tariff Reform policy advocated by Mr. Chamberlain gave the Radicals sinsgow he went to Trinity College, The bye-elections showed that the Cambridge, where he remained from 1853-58. Both his father and his elder brother were staunch Conservatives, his father having contested Glasgow in that interest twice, and his brother being the Conservative member for Aberdeen and Glasgow H. C.-B. At the election which Universities from 1880. In 1868 College Carlo Stilling swung from one side entirely to the other. The returns were: Liberal 379, Labour 57, Nationalist E3, Unionist 157. The principal measures of his C. B. twice contested Striling swung from one side entirely to the Burrhs, the first time at a bye-election, the second in the general election which followed the Reform Act of 1868; at the former he was gained the seat. From that date government were an Education Bill, unsuccessful, but at the latter he agained the seat. From that date until his death he sat continuously for the Stirling Burghs. He quickly identified himself with the most pronounced and forward opinions of the Liberal party, and his ability and earnestness soon marked him out for Dispute Act, the Patents Act, and office. In 1871 he became financial

immediately after his acceptance of the premiership, Sir Henry began to fail in health, and to be unable to fulfil the duties of the office. The death of his wife, together with his own illness, began to make his attendances less frequent. The leadership of the House passed practically into the hands of Mr. Asquith, but still the great popularity of the Premier delayed his resignation, which, however, ultimately came on April 5, 1908. He died on the 22nd of the same month.

Campbell Island, an uninhabited island of volcanic formation, about 350 m. S. of New Zealand, to which

and a rich flora.

Campbeltown, a scaport in Argyllshire, Scotland, on the peninsula of Kintyre, 36 m. S. of Tarbert. The harbour, sheltered by Davaar Is., is an excellent one; shipbuilding is carried on, and herring fishing, carried on, and nerring issing. Whisky is distilled and exported, and there are manufs. of woollens. The town, which was anciently called Dalruadhain, has a pop. of 10,000.

Campeachy (Sp. Campeche) is the

name of a state, a tn., and a bay, in the state of Mexico. The state is level in character, and rice, sugar-cane, and tobacco are grown. Dye-woods, cordage of sical hemp, cotton, and indigo are the principal exports. Area of state, 18,087 sq. m. Pop. 95,000. The town of C. is situated on C. Bay, 90 m. to the S.W. of Merida. The harbour is safe but shallow; eigars and palm-leaf hats are the principal manufs. The town was founded in 1540 on the site of a vast series of catacombs of the Mayas, and was burnt down by buccaneers in 1685. Pop. 20,000. The Bay of C. is the name given to the south-eastern portion of the Gulf of Mexico, W. of Yucatan Peninsula.

Camper, Pieter (1722-89), a Dutch physician and anthropologist, born at Leyden. He held the post of professor of medicine, surgery, and philosophy at Francker from 1749 to 1755, when he removed to Amsterdam, where he was professor of anatomy, etc. His chief work was done in anatomy and medical jurisprudence. Countries and Ages, as in his book on good in colouring. His work is Beauty, he endeavoured to prove that of Lazarus' is at Castel Maggiore, the rules of painting, as laid down by and a portrait of himself, his best masters of the art, were scientifically piece of work, in the gallery chained that the differences in form

premiership was undoubtedly the and countenance is caused by the due reward of the leader who had variation of the facial angle. His kept the party so well together treatise on the organs of speech in during the lean days. But almost apes demonstrated that articulate sounds could not be produced even by the species most near to man.

Camphor (C10H14O), a waxy translucent substance closely related to the ethereal oils, obtained from the C. tree (Camphora officinarum). It is produced in Japan, along the coast of China, but mostly in the island of Formosa. The substance is obtained by storing chips of C. wood in earthenware vessels closed at the top, into which a current of steam enters. The C. is volatilised, and passes with the steam to the top of the pots, where it condenses in the form of small white island of volcame formation, about crystals. C. has a specific gravity 350 m. S. of New Zealand, to which nearly equal to that of water, melts it belongs. Area 85 sq. m., highest iat175°C, and boils at204°C. It volapoint 1498 ft.; has good harbours tilises at ordinary temperatures, and emits a pungent aromatic odour. is slightly soluble in water, but dissolves easily in ether, alcohol, naphtha, etc., and is used as an ingredient in many liniments for sprains, muscular rheumatism, etc. It is also largely used to keep away moths and noxious insects from clothing, furs,

stuffed animal specimens, etc.

Borneo camphor (C₁₀H₁₃O) is found in Dryobalnops aromatica, a tree of Sumatra and Borneo. It has properties very similar to the above, but is more highly prized by the natives of the E. Blumea campher or ngai is a substance of similar composition found in Blumea balsamifera, and is used by the Chinese for perfuming ink. What is called artificial camphor is really hydrochlorate of turpentine oil (C10H10HCl). It has the odour of the natural product, but does not possess the other useful properties to

the same extent.

Camphoric Acid (C₁₀H₁₆O₄), a substance formed by digesting camphor with nitric acid. It forms colourless flakes which do not readily dissolve in water.

Camphor Oil, a reddish liquid which is produced in the distillation of chips of the camphor tree. crude product usually contains a quantity of camphor in solution.

Campi, or Campo, a family alian artists, of the school οf

Italian artists, of the Cremona, their birthplace.

Galeazzo Campi (1475-1536), the founder of the family. He was a pupil of Boccaccino, but his style is in imitation of Perugino. His work is

and pupil of Galeazzo. He studied free import of raw materials, the in-under Giulio Romano at Mantua, but stitution of a national bank, etc. On modelled his style on that of the great masters, Raphael, Correggio, Pordenone, and, above all, Titian. Several of his paintings are in the churches of Cremona and at Milan.

Antonio Cavaliere Campi (c.1522-c. 1600), studied with his brother under Giulio Romano. He painted historical pieces in oil and fresco, modelling his art upon Correggio. His principal pictures are 'St. Paul raising Eutychus, an altarpiece of the Nativity, and 'St. Jerome in Meditation' (in the Prado). He was commissioned to paint for Philip II. of Spain at Madrid, and won some reputation as an architect and writer as well as a painter. Fine specimens of his work are at Cremona, Mantua, Modena, and Milan. Vincenzo Campi (c. 1530-91), less

distinguished as an artist than either He accompanied Vincenzo excelled of his brothers. Antonio to Spain. Vincenzo excelled in pictures of still life, but he attempted religious subjects, notably in his 'Descent from the Cross,' an

altarpiece at Cremona.

Bernardino Campi (1522-c.1592),was probably related to this family. He studied with Giulio and Hippolito Costa at Mantua, and imitated the work of Titian, Raphael, and Correggio. The was chiefly employed in the churches of Italy, in which he executed some work of a great size, notably in San Sigismondo and San Domenico, at Cremona. In 1584 he published a treatise on painting, Parer sulla pillura.

Campobasso, formerly Molise, is the name of a prov. and tn. in Italy. The province extends from the S. Apennines to the Adriatic, and has an area of 1778 sq. m. Sheep and goats are reared, and wheat, maize, and olives grown. The capital of the province, C., is situated 50 m. to the N.E. of Naples. It is a fort. tn.; the manufs. of cutlery are considered the best in Italy, and silk, paper, and hats are made. There are several fine churches in the town, and a fair is held there twice a year.

Campo Formido, a vil. of N. Italy, 6 m. S.W. of Udine. Celebrated for the treaty of peace concluded here between Austria and France in 1797, when Napoleon, fresh from the sub-jugation of Italy, threatened Vienna. Campomanes. Don Pedro Rodriguez.

Conde de (1723-1802), a celebrated Spanish statesman, born in Asturias. He was president of the Cortes, and director of the Royal Academy of History; during his term of office as Minister of State he introduced many

the accession of Charles IV. he retired into private life His numerous works include: Antigüedad Maritima de la República de Cartago, 1756; Discurso sobre el Fomento de la Industria Popular, 1774, which was the first Spanish work to treat of political economy in an efficient manner; Discurso sobre la educación popular de los Artisanos, 1775; Tratado de la Regalia de la Amortización, 1765.

Campus Martius (the plain of Mars) was the name given to a large plain skirting the walls of Rome on the north-eastern side; it was called also Campus as being the plain of the city. It was sacred to Mars, and was therefore used for military manœuvres, contests, etc. During the later period of the republic it was laid out in walks, baths, etc., and was used as a

public recreation ground.

Campylomyza, a genus of dipterous insect of the large family Tipulides. which comprises the daddy-long-legs or crane-flies. The species are found on the leaves of trees, and some inhabit Britain. C. bicolor is of a blackish colour, with the edges of the abdominal segments pale, and the legs pale yellow.

Campylus, a genus of coleopterous insect of th

related to fire-flies.

Britain, is nearly half an inch in length, and is found on the leaves of trees, nettles, and other plants.

Camwood, the name of a wood ob-

tained from a tree that grows in Africa and Brazil. From it an exceedingly brilliant red dye is obtained, of which the only defect is its lack of permanency. Barwood, very like C., but giving a duller hue, is obtained from the same tree. The wood is also manufactured into various articles of turnery, such as knife handles.

Canaan (low lands) was the name which was originally applied only to the low coast-land of Palestine, on the Mediter

mountain la The part of

was afterwards called the 'land of C.,' that to the E. the 'land of Gilead.' Later still the name denoted the

whole of Palestine.

Canada is widely different in extent and in a political sense from the British colony which was so called in 1867. Before that year C. was a region which extended from the watershed W. of Lake Superior eastward to Labrador, and had a length of about 1400 m. and a breadth varying from 200 to 400 m. The independent British provinces of Nova Scotia, New Brunsreforms, such as the opening of provinces of Nova Scotia, New Bruns-Spanish ports to foreign trade, the wick, Prince Edward Is., and Newmense area owned by the Hudson Bay Company, constituted with C. the British possessions in N. America. Various considerations caused the union of these provinces into the Dominion of C. in 1867; these reasons will be dealt with in the historical section. The Dominion of C. was con-stituted by the British North America Act of 1867, which united the various colonies of British N. America. The first colonies to unite were Upper and Lower C., Nova Scotia, and New Brunswick; what had formerly been the Hudson Bay territory was bought from that company, and formed into the provinces of Manitoba and the N.W. Territory. These were admitted into the confederation in 1920. as far as Passamaquoddy Bay Atlantic. The whole of the N. r

the continent, including the form the most im-Isles W. of Greenland, is Canadian portant features in this section of the territory, with the exception of Alaska.

Physical features.—The islands of the Arctic Archipelago are connected with the history of commerce and ex-ploration, for a N.W. passage to the E. of Asia was vainly sought for many years among the channels separating theislands. Maclure between 1850 and 1853 effected a passage, but the dis-

foundland, together with the im- bays which form magnificent harbours. On the Altantic coast the chief indentations are the Bay of Fundy. which is remarkable for its high tides and 'bores,' the Guli of St. Lawrence, and Hudson Bay, which has an area of over 350,000 sq. m. The Pacific coast has no such vast bays, and is smaller in extent than the Atlantic coast, but it is broken up in a noteworthy manner by fjords. There are a fair number of islands off the coasts. Vancouver Is. and Queen Charlotte Is. are the most noteworthy off the Pacific coast; Prince Edward Is., Cape Breton Is., and Anticosti on the Atlantic side. Plains and undulating lowlands make up the surface to the E. of the Rocky Mts. Large tracts in N.W Territory. These were admitted E. of the Rocky Mts. Large tracts in the to the confederation in 1870. In the N. are composed of tundras the following year British Columbin in the N. are composed of tundras similar to those of Northern Russia joined the union, and in 1873 Prince Edward Is. The N.W. Territory is similar to those of Northern Russia si the Pacific Ocean and Alaska, on the greatest extent on the table-lands E. by the Atlantic and Newfound-immediately to the E. of the Rocky land, and on the S. by the U.S.A. Mts. The prairie region rises in what E. by the Atlantic and Newfoundland, and on the S. by the U.S.A. Mts. The prairie region rises in what The dividing line between C. and the are known as the three prizrie steps States is the middle line of Lakes Superior, Huron, Erie, and Ontario, and to the W. of the Lake of the Woods the parallel of 49° N. lat. The Woods the parallel of 49° N. lat. The middle line of the St. Lawrence, as westwards, forming a terrace of about 250 m. in extent; after that the boundary E. of the great lakes; then the boundary line runs by that parallel to Hall's Stream, the most westerly of the headquarters of the Connecticut R., and by that stream to its head. The water-parting of the St. Lawrence basin is the continuation of the boundary to about 46° N., when it is continued by arbitrary straight lines between the St. John R., the Grand Lake, and the Creit P. We of that the Lawrence on the N., as far as Passamaquoddy Bay (** e terminates in the The St. Lawrence

Canada

Dominion; the St. John, the Miramichi, and the Restigouche Rs. are worthy of mention. The great feature of Eastern C. is the system of lakes. which have a united area of 90,000 on m. The principal rivers of the Dominion in addition to the St. Lawrence and its tributaries already mentioned are: in British Columbia, the Fraser, the Thompson, and the covery was of no commercial value major portion of the Columbia R. as the route is too much hampered by The Athabasca R. and the Peace R. ice. The Athabasca, and Issue shores are well supplied with deep out from it under the name of the Slave R.; this flows into the Great | Cretaceous deposits is found, of which Slave. Lake and is known as the Mackenzie R. until it flows into the Arctic Ocean, after flowing 2800 miles in all. The Albany R. and the Churchill R. flow into Hudson Bay. The Red R., the Winnipeg, the Assiniboine, and the Saskatchewan flow into Lake Winnipeg, from which the Nelson R. flows into Hudson Bay. The more important of the lakes are Lake Athabasea, which has an area The more important of the lakes are Lake Athabasca, which has an area of 3000 sq. m., the Great Slave Lake. the Great Bear Lake, Lake Winnipeg, which is 9000 sq. m. in area, Lake Winnipegosis, Lake Manitoba, the Lake of the Woods, the Lake of St. John, and Lake Mistassini. The greatest elevation is found in the eastern range of the Rocky Mts., in about 52° N. lat.; the highest peaks are Mt. Brown (16,000 ft.), Mt. Murchison (15,789 ft.), and Mt. Hooker. Hooker.

Geological formation.—The geological structure of C. is of very great importance in connection with the physical features. Archiean and other crystalline rocks extend over very large continuous areas, and where such rocks prevail the earthy covering is as a rule only a thin layer spread over a hard foundation. Over this thin earth many rivers flow with innumerable turns and windings, and there are a number of lakes of varying sizes, some joined together, others isolated. The whole area from the

tirely of ' features those of the N.V.

of the Dominion, with one or two patches of Cambrian; these formations extend along a narrow piece of land bordering the St. Lawrence from a little below Quebec and occupying the whole area between the St. Lawrence and lower Ottawa. The Lawrence and lower Ottawa. area between Lake Ontario and Georgian Bay, together with the northern part of Lake Huron, extending nearly as far N. as the Madawaska R., is composed of the same class of rocks; the south-western part of the lake peninsula between Lake Eric and Lake Huron is composed of rocks of the Devonian period. Lakes Manitoba and Winnipegosis are also almost surrounded by Devonian rocks. The Archean rocks near Lake Winnipez are succeeded by Silurian and Devonian stratz, which stretch westwards in strips running parallel with Lake Winnipeg and Lake Manitoba. To the W. of

the precise limits have not yet been determined. Tertiary rocks are found here and there to the westward of the above area, and the geology of the mountainous tract in the W. is much too complicated to be dealt with in detail. Over almost the whole of the Dominion glacial deposits are found, and in some places there are aqueous deposits; the rich soil of the Red R. valley in Manitoba is formed

by aqueous deposits.

Climate.—The climate of C. is characterised by greater extremes of heat and cold than that of Great Britain, but is healthy on the whole. E. of the Rocky Mts. the climate of the Dominion has those extremes of temperature which are prevalent all over the northern hemisphere in the same latitudes, save in those regions which are exposed to southwesterly winds from the sea. difference in the climate of Western C. and Europe is mainly due to the fact that the area between the Rocky Mts. and the Pacific is mountainous in character, and the mountains extend at right angles to the prevailing winds and parallel with the coast. For this reason great contrasts both of rainfall and temperature are found close to the Pacific. The total precipitation is very scanty to the E. of the Rocky Mts. as far as Eastern Assinibola, when it begins to isolated. The whole area from the increase again. Since the future of lower St. Lawrence to the shores of the Canadian N.W. Territory depends Lake W.

iliarities of the climate as this industry must be borne Most of the total precipitaes place during the summer

prevail over very large areas. Silurian months; a considerable proportion of rocks succeed the Archean in the E. the precipitation is in the form of snow. This is the case throughout the Dominion of C., but in a much greater degree in the E. than in the W. From this snowfall springs in each part of the country a different advantage for the cultivation of wheat. The great advantage of the snow in the eastern region, where the precipitation is distributed equally throughout the year, is that it protects the ground against the severe frosts. Therefore in those severe frosts. Therefore in those regions 'fall' or winter wheat can be grown. In Manitoba and the N.W the frost comes before the snow, and spring wheat only can be grown. But the melting of the frozen water in the spring furnishes moisture at the time when it is wanted, save in the very dry parts of this region, where irrigation is receiving the attention of the government as well as of private The rainfall does not individuals. determine the amount of the produce these formations a vast area of so much as whether or not frost occurs

being ruined in this manner is being lessened by the careful choice and cultivation of hardy varieties of wheat, which ripen quickly. Spring in C. commences in April two or three weeks later than in England, but by the middle of July the crops of the latter country can claim no advantage in their condition. June, July. August, and September may be said October to the middle of November is the autum. The remaining portion of the year, from the middle of November to the end of March, is the parts of the Dominion railways a parts of the winter. Although cold temperatures are frequently found, the Canadian air is generally dry and exhilarating, and the climate in consequence salubrious. The temperature in the winter in districts near to the mounwhiter in districts near to the mountains is mitigated by warm winds, which blow from the S.E., S., or S.W on the westward side of the Rocky Mts., and from the S.W., W., or N.W. on the E. side. These winds are known as 'chinook' winds, and the reason of Alberta's are known as connook winds, and they are the reason of Alberta's principal industry being the raising of stock, as these winds cause the cold of winter to alternate with periods of warm weather when the ground is cleared of snow, and the grasses flourish.

Canals and waterways.—The canals of C. are only about 270 m. in length, but by their aid over 3000 m. of inland navigation is opened up. The St. Lawrence R. and the Great Lakes, supplemented by a number of short canals, together form a system of which navigation not equalled in any other continent. Lachine Canal above Montreal was the first to be constructed: it was opened in 1825, and other canals between Montreal and Lake Ontario were completed by 1843. The Welland Canal runs parallel with the Niagara R., avoiding the falls; it has a total rise of 326 ft., obtained by twenty-six locks.: The Sault Ste. Marie, or 'Soo' Canal, between Lakes Superior and Huron, was constructed between 1889 and 1895. It is not much more than a mile in length, and has one lock only, which measures 900 ft. by 60 ft. The canal on the United States side at the same place, which has been there since 1855, has been fitted with two locks since 1896, the larger of which is 800 ft. by 100 ft. The traffic through these canals is now the largest in the

before harvest. The risk of crops | built for the lake and canal traffic. There are other less important inland waterways in the Dominion in addition to this main route. The river Ottawa is navigable as far as Ottawa city, with the aid of some canals: and Kingston on Lake Ontario is Ringson on Data Connected with Ottawa by the Rideau R. and Canal. Navigation can be continued above Lake Superior by Rainy Lake and R., thence by Winnipeg Lake and R., and thence up the Saskatchewan R.; the Assiniboine R.

Railways.—In the more populous parts of the Dominion railways are generally to be found, and since the completion of the Canadian Pacific Railway in 1885 there has been communication from ocean to ocean within the territory of the Dominion. within the territory of the Dominion. This railway has an advantage over its older rivals, the Northern Pacific and the Union and Central, in the lower height of its passes and the shorter length of route at high levels. The Great Northern Railway, of which the main line was completed in 1802 has a cond a route on the whole 1893, has as good a route on the whole as the Canadian Pacific Railway. as the Canadian Pacine Railway.
The three principal systems in the
Dominion are the Canadian Pacific,
which has a length of track (including its branches of 7729 m.) of 10.633
m.; the Grand Trunk Railway, an
amalgamation of over twenty smaller systems, which has a length of 3158 m.; and the Intercolonial Railway, with a length of 1360 m. In the year 1901 there were 13,140 m. of railway

open in C.

Industries .- The fisheries of C. are the largest in the world, and there are annually sold in the Dominion markets over \$20,000,000 of fish. Both the sea fishing and the freshwater fishing are of great importance, the lakes and rivers supplying abundance of fish for commercial purposes in addition to giving to sportsmen some of the finest salmon and trout fishing in the world. The develop-ment of the fisheries has during late years been the object of attention on the part of the government, and an annual bounty is granted by them to the vessels engaged in the fisheries. The number and the efficiency of the boats have thus been increased; and fish breeding establishments have been commenced in different parts. The principal fish are cod, herring, lobsters, salmon, mackerel, haddock, trout, and sardines. The mineral resources of the Dominion are very large, though not by any means fully developed as yet. The minerals of these canals is now the largest in the trout, and sardines. The mineral world, much exceeding that on the resources of the Dominion are very Suez Canal. Sca-going ships may be large, though not by any means fully carried from the Strait of Belle Isle developed as yet. The minerals of in the N. of Newfoundland to Port most importance, or which will be of Arthur on Lake Superior, a distance most importance in the future, are of over 2200 m.; it is, however, more coal, gold, silver, nickel, copper, and economical to have special ships iron. There are coalfields of very large

Pacific Railway. There is an enormous coaffield in British Columbia to the W. of the Crow's Nest Pass, and the coal is of excellent quality. It is, however, noteworthy that between New Brunswick and Manitoba there is no coal. It is the absence of coal in this, the most populous area of the Dominion, that makes C. dependent so largely on the United States for fuel, not only anthracite, which is free of duty, but bituminous coal. on which there is a duty. Iron ore is found in many places, the most promising deposit at present being that of Michipicoten in the Lake Superior district of Ontario. The largest quantity of gold is found in the Yukon district of the N.W. Territory, and in British Columbia and Nova Scotia. Most of the silver and copper which is found in the Dominion is in the province of British Columbia; copper is also found. together with nickel, at Sudbury in Ontario, in which province are also found petroleum and salt. The exports of minerals from the Dominion include coal, gold, copper, iron, phosphates, salt, antimony, mineral oils, and gypsum. The timber industry of C. has always been of the greatest importance, and since the invention of so many uses for wood pulp it has gained rather than lost. The Canadian saw milis are very well managed and appointed, and large numbers of men are employed in the various stages of the timber industry. The varieties of woods dealt with include the maple. elm, hickory, fronwood, spruce, cedar, pine, hemlock, walnut, oak, bass-wood, chestnut, rowan, birch, willow, etc. Including wood pulp, the value of the timber exports in 1901 was over \$30,000,000. Agriculture is the leading interest of the Dominion, and considering the great area of land that has still to be tilled, must remain so for some considerable time. Dairy farming is extensively practi-ed, and the development of transport facilities and cold storage has given a fillip to this trade, as well as to the exportation of meat. There is a Dominion Department of Agriculture which has a member of the Cabinet at its head: and five government experimental farms have been established in various parts of the Dominion. The exportation of cattle is an industry that is of fairly recent date but is growing rapidly. The cattle reared in the Dominion are of good quality, as during the last fitteen years many pedigree animals have been intro-

extent, though they are as yet worked duced to improve the breed. Though only in the neighbourhood of seather the development of the manufactures ports, such as Vancouver Is. and in of C. has been rapid of late years, it he N. of Nova Scotia, or at various may be said that they are not yet points on the route of the Canadian come to maturity. Quebec has tanning industries and manufactures boots and shoes, the manufactures of woollen and cotton goods are increasing, and there are sugar refineries in Halifax and Montreal. Such wooden articles as doors, window sashes, etc., are manufactured in larger numbers. The value of the exported manufactures in 1904 was over \$48,000,000; the principal articles were agricultural machines, whisky, boards, wood pulp, musical instruments, carriages, bicycles, boots and shoes, cotton goods, etc.

Shipping, etc.—The number of vessels registered and owned in C. in the year was 6894, with a tonnage of 675,627; this was made up of 2189 steamers of 182,832 tons net, and 4705 sailing vessels of 492,795 tons The tonnage of vessels entered and cleared in 1902 was 14,731,488 tons, exclusive of 15,293,916 tons entered and cleared at the lake ports, to and from the U.S.A., in the same year the coasting trade amounted to 10,700,907 tons entered and cleared. Regular lines of steamers run between Great Britain and C., and there is a monthly service of mail steamers be-tween Vancouver and Australia in connection with the Canadian Pacific Railway; this service is assisted by subsidies from the respective govern-ments. The Canadian Pacific Railway has also in connection with it a service of steamers between Van-couver and China and Japan, thus bringing London within three weeks of Japan. Post-office savings banks have been in use in C. since 1868; there were thirty-four incorporated banks making returns in 1902, with 747 branches. There are also various loan, friendly, and building societies, and one or two chartered savings banks.

Commerce.-Since 1879 the foreign commerce of the Dominion has been affected to a large extent by the increase of the customs tariff. percentage of duty on the total value of goods imported, both dutiable and free from duty, was in 1868 12 per cent. and in 1878 13 per cent. In the following year a general increase in the tariff was sanctioned by the government, and what is known as the 'national policy 'was begun. The percentage of duty was in 1881 201 per cent., and in 1901 16 per cent.

held at Ottawa, carried a resolution in favour of an arrangement between Great Britain and her colonies by means of which the former should be given preferential treatment over foreigners. Accordingly an act was passed in 1897 under which British wheat, tobacco, raw cotton, and from 25 payment of customs dues 25 per cent. less than those levied on foreign goods; the new from Au to the United States they are Indian corn, coal, and steel manufactures. C. exports payment of customs dues 25 per cent. less than those levied on foreign goods; the new from Au to the United States gold, and lead ores, nickel, and

Canada

applies not only to the produce of the United Kingdom but also to that of the W. Indies, as well as that of any other British colony which has a customs tariff comparing favourably in its relation with C. to the reduced Canadian tariff; it does not however, apply to any alcoholic liquors, tobacco, or liquid medicines. The tariff was modified in some details in 1904, when the abatement on most of the woollen and worsted goods of 'o about 15 al value of

ween 1872 sterling: 1880 1876 and between almost £19,000,000 sterling: and between 1886 and 1890 £23,500,000 sterling. During the same periods the average total value of the general exports £17,750,000, £16,500,000, and £18,500,000 sterling respectively. Among the exports, timber has always been the most important, although relatively its importance is growing relatively its importance is growing less; among the imports, iron and steel goods hold the first place. Trade with Great Britain in 1902 amounted to the value of \$166.526,000; with the U.S.A. \$192,013.000; with France \$8.061,000; and with Germany \$13,516,000. In 1904 the total trade was valued at \$472,733,000, of which the exports were \$213,521,000. Of the exports were \$213,521,000. the exports Britain received 55 per cent., and the United States 28 per cent.; of the imports Britain sent 24 per cent., and the United States 58 per cent. The proportion which C. imports from Great Britain has been gradually decreasing; this is caused mot so much by any actual decrease in the amount which Great Britain sends as by the great increase in the amounts imported from the United States. On the other hand, the proportion which C. exports to the United Kingdom has increased in as marked a degree as the imports have lessened. In 1872, 58 57 per cent. of Canadian imports were from Great Britain; in 1904, as we have seen, 24 per cent. only. In 1867, Great

reductio and lead ores, nickel, and from July 1, 1960. The abatement asbestos, coal, fish, hides, and timber. Population and area.—C. is almost as large as the whole of Europe; the following were the populations and areas of the different provinces of the Dominion in 1901. Prince of the Dominion in 1901. Prince Edward Is., with an area of 2184 sq. m., had a pop. of 103,259; Nova Scotia, 21,428 sq. m., pop. 459,574;

sq. m., 178,657 inhabitants; Alberta and Saskatchewan (formed from Alberta, Assiniboia, Saskatchewan, and Athabasca in 1905) and the N.W. Territories, area 2,694,880 sq. m., 211,649 inhabitants. The total area of the Dominion, with C's share of the Great Lakes, is 3,653,946 sq. m., and the pop. (1901) 5,371,315. The principal nationalities represented are English, Irish, Scotch, French, German, and Indian, though there are also some few Dutch, Russian, Chinese, Welsh, Italians, Jews, halfbreeds, etc. English is the general language of C., though in some parts of Quebec French is the only language understeed and the French language understood, and the French language is by statute an official language in the Dominion parliament and in Quebec, but not now in any other province. Members of the Quebec and Manitoba parliaments may also address the House in a cities a feed of the Company of either English or French. French Canadians, or 'habitants' as they are called, speak a patois which re-sembles 17th century more than modern French. The number of Indians in C. in the year 1881 was estimated to be 108,547; in the year 1902 it was 108,112. It is thus seen that the race is practically stationary, and when it is recalled that very few Indians of pure blood remain, it may be said to be gradually declining. Of the number now left about one half are in Manitoba and the N.W. Territorics, and the remainder are almost equally divided between Britain only received 30.2 per cent. British Columbia and the Eastern of C.'s exports, whilst the United provinces. Such as are in inhabited States received 59.86 per cent.; in districts are usually located on repossessed the necessary qualifications. | ^ * " and schools are being established for the education of their children.

numbered 2,229,000; the Methodista, 917,000; the Presbyterions, 812,500; the Church of England, 680,500; the local rates and provincial govern-ment grants. In Ontario and Quebec. where the number of Roman Catholics is very large, there are separate schools for members of that de-nomination; there used to be such achools in Manitola, but there they were abolished in 1890. The teachers are trained in provincial normal schools at the public expense. expenditure on education in 1900 expenditure on education in 1900 was about \$1.9 per head of the pop. The standard of education in the Dominion is a very high one, and poverty need be no bar to the intellectual student. The principal universities of C., with the dates of their roundation, are as follow: Dathousie in Nova Scotia, 1820; M'Gill in Montreal, 1821; New Brunswick, 1825; Toronto, 1825; Queens in Kingston, 1841; Laval in Montreal, 1852; Manitoba, 1877.

Social conditions, de.—The Social conditions, de.—The Social conditions, de.—The Social conditions, de.—The Social conditions of the Darketon President of the President of the

conditions prevailing in the Dominion do not favour the existence of such rigid distinctions of caste as still exist in England. There are no tenants, and consequently no landlords: practically every fartner owns his farm and is his own master. With this pervading sense of freedom, C. has passed many such laws as the English nation is still valuly trying to bring forward. Local option pre-valls in the drink question through-

minite tall ! provinces the . the control of

serves, and are engaged in agricul- In Manitoba and the N.W. Territories, tural and industrial pursuits. Many however, the Dominion government of them hunt and fish for their livell- owns the land, with the object of hood, and many are employed, as obtaining some money to lessen the guides by sportsmen. The franchise debt incurred by the acquisition of was extended in 1886 to those who these territories and the construction

Religion and education.—There is settlers over eighteen years of age, no state religion in C., and absolute and to female heads of families, with toleration is there an accomplished the option of purchasing a similar fact. In 1901 the Roman Catholics area at prices varying from 8s. to 10s. per acre. In most of the other pro-vinces similar inducements are held out to immigrants. The Canadian Baptists, 316,506; the Lutherans, forces have always proved themselves Baptists, 316,506; the Lutherans, forces have always proved themselves 22,506; and the Congregationalists, loyal to the empire; they have taken 28,300. Taxation to support free and the field in the war of 1812-14, in unsectarian schools has been levied in Papincau's rebellion of 1837, the C. since 1846. The control of the Fenlan raid, the field R. expedition of 1870, the N.W. rebellion of 1886. perial government garrisoned the fortresses of Halifax, Esquimault, and Vancouver until the year 1905, when the Dominion government's offer to take over the defences of these places was accepted. The Canadian forces are divided into two sections; the permanent force forms four schools. and consists of 1066 units of all forces, cavalry, artillery, engineers. and infantry. Every male Canadian be-tween the ages of eighteen and sixty is liable for service in the second section of the forces, section of the forces, the active militia, which numbers about 46,000, In addition there are the Canadian N.W. Mounted Police, who number about 1000. The relations between C. and the U.S.A. are, on the whole, tranquil, though, as was inevitable, disputes have arisen at various times. The Alaska frontier difficulty caused perhaps most trouble, but was finally settled in 1903. Other matters on which discussions have taken place are the Belving seal fisher, and the rights of United States fishermen in Canadian waters. The question of the annexation of C. to the U.S.A. is discussed sometimes, but such an event is not in the region of practical That such would be the politics. destiny of C. was the view of Pro-fessor Goldwin Smith, but his views are not generally shared, nor are they at all popular in the Dominion. The valls in the drift question substitute that the cursis established; free and unsectar in education is practically universal; of 31 Vict. to be dollars, cents, and the franchise is framed on a liberal mills. These were on the decimal scale, and members of parliament are system, there being 100 cents in a r, and 10 mills in a cent. The sh sovereign was then declared

: legal tender for \$1.86. struck by order of Her Majesty were legal tender up to \$10, and

similar copper coins up to 25 cents. The gold cagle of the United States for \$10. All the coins in circulation in C. are struck in England; they comprise silver 50, 25, 20, 10, and 5 cent pieces, and copper one cent pieces. The 20 cent pieces are gradually disappearing from circulation, and none have been struck for a considerable time. C. has no gold coinage of its own; the Dominion government controls the issue of specie.

Government .- By the British North Government.—By the British North.
America Act of 1867, the executive government of C. is vested in the king, who is represented by a governor-general appointed by him for a term of five years. The emoluments of the governor-general are. however, paid out of Canadian revenues. The Federal parliament consists of two houses, the Upper House, or Senate, and the Lower House, or House of Commons. The members of the Upper House are appointed for life by the governor-general under the great seal of C. They must be over thirty rears of age, British born or naturalised British subjects, and must reside in the province for which they are appointed. The number of the senators is eighty-one. In the House of Commons the province of Quebec has the fixed number of sixty-five members and the other provinces are represented in the proportion, as ascertained at each decennial census. that the number sixty-five bears to the pop. of Quebec. The members of the House of Commons are elected for a maximum term of five years, or until the parliament be dissolved. The only qualifications necessary for the Lower House is that the mem-bers must be British subjects. They are paid at the rate of \$10 a day if the session last less than thirty days, and a maximum amount of \$1000 for any period over that time. The provinces have local legislatures: at the head of each of the provinces is a lieutenant-governor, who appointed by the governor in council.

lature shall consist of one or two houses is entirely within the control of the local authorities, who also determine the election of members, the franchise qualifications, and the electoral districts. The length of a local parliamentary session is limited to four years. The administration of the N.W. Provinces is in the hands of a lieutenant-governor and a council composed of some elected and some

was also declared to be legal tender, local taxation is by no means heavy. The governor-general has a right, which is, of course, very seldom exercised, to disallow or reserve bills for imperial consent. The constitution of C. cannot be altered save by the imperial parliament, but to all intents and purposes C. has complete autonomy.

History.—In 1535 Jacques Cartier, Frenenman, undertook a voyage of discovery along the coasts of Newfoundland and Labrador, and in the following year discovered the St. Lawrence R. and travelled as far as the Indian capital, Hochelaga, bring-ing back with him the first cargo of Canadian furs. Some small settlements were made by the French, but abandoned after two years, and it was not till 1603 that Samuel de Champlain, who had visited the Commpain, who had visited the country in 1603 and subsequent years, founded the city of Quebec. The St. Lawrence region formed a French colony under the name of C. for the next, century and a half, but the English Hudson's Bay Company was formed in 1670, and began to carry on trade with the Indians in the N.W. Territory. Halifax in Nova Scotia was founded in 1749, and a British governor was set over a number of British who had emigrated thither. The struggle between the French and the English for the possession of the N. American continent was lengthy and determined, but the English proved victorious in the long run. The taking of Quebec by Wolfe in 1759 really secured C., though the formal cession was not made by the French till the close of the Seven Years' War in 1763, by the Treaty of Paris. The boundary between C. and the United States was first defined the United States was in a substantial by another Treaty of Paris in 1783 at the end of the American War of Independence. After this war many loyalists came over into C., and two colonies were formed, Brunswick and Upper C. (now Ontario). Quebec was in 1791 divided and paid by the Dominion. He acts into Upper and Lower C., but this measure was unsatisfactory to the inhabitants of both provinces, and in 1837 rebellion resulted from the constant discontent and friction. Lord Durham was sent over to re-port on the situation which had arisen, and his report led to the reunion of the two provinces and the granting of responsible government to the colonists. Upper and Lower C, were no more harmonious when joined than when separated, and in 1867 confederation took place. For the times at which the various provinces nominated members. There is a very and colonies joined the confedera-good system of municipal govern-tion, see the beginning of this article, ment throughout the Dominion, and The history of Canada after the War

of Independence is characterised by use, no method was known of trans-the removal of all commercial pre-ferring boats from one level to another, ference from her in the English trade. and the gradual gaining by her of complete autonomy. Since the time of the confederation the Canadian government has obtained in 1879 the right to give a preference in tariffs to another colony, in 1881 right of representation when treatics concerning her interests are being discussed, and in 1897 the right to demand that a treaty which she considers inimical to her interests should be abrogated. Riel led two rebellions of the half-breeds in 1869 and in 1885; the second was the more lown, and

progress of

has been fairly rapid, and has quickened up in late years, but the resources of the country are still practically un-touched. The growth of railways, however, is causing trade and manufactures to increase in every direction, and there is no doubt that a great future awaits Canada. Consult Marquis of Lorne's Canadian Life and Scenery, 1885; Professor Goldwin Smith's Canada and the Canadian Question, 1891; and the poems of Messrs. Bliss Carman and Robert Surface.

Canada Goose, or Bernicla cana-densis, a species of the Anatidæ or duck family which is common to N. America. It is a wild goose which sometimes breeds in Europe, and it is closely related to the Barnacle

Goose (q.v.).

Canal (Lat. canalis, a channel), an water - course serving the artificial purpose of drainage or irrigation, or more frequently for the transporta-tion of merchandise in boats, barges, or ships. Cs. have undoubtedly been in existence since very early times. Herodotus and Strabo both speak of a C. across the isthmus of Suez which was begun in 616 B.C. by Nechs and completed by the year 521 B.C. The first use to which Cs. were put was extremes, and which the and structed still re:

minates at Lin The total length is about 650 m., Sometimes the sides are faced with but the depth is seldom more than stonework or concrete where there is 6 ft. Though it is thus seen that much traffic, and durability is the Cs. have been in existence for many main consideration. As regards the years, and were undoubtedly of some water supply for a C., it is, of course,

and the sphere of usefulness of the C. was thus limited. That which did more than any other invention to revolutionise C. traffic was the invention of locks. It is not certainly known to what individuals or even to what nation we are to ascribe the honour of this discovery; according to some authorities the Dutch were the first to make use of locks, according to others the Italians. A lock chamber enclosed by a pair of gates was said to have been constructed by two brothers Domenico in 1481, and Leonardo da Vinci six years afterwards completed six locks which united the Cs. of Milan. The Languedoc C., or C. du Midi, may be looked upon as the prototype of modern European Cs. This C. connects the Bay of Biscay and the Mediterranean. It has a length of 148 m., and there are 119 locks, which have an average lift of 6½ ft. The Cs. of some time ago were only available for barge traffic or boat traffic, but gradually the size increased until, with the growth of commerce and the increase in engineering skill. Cs. have been constructed to take ocean-going ships. The more notable of these will be later considered, but some idea of the requirements and points to be considered in inland Cs. may first be given. engineer is not so free in the choice of the route for a projected waterway as is the railway engineer. radient, will ta howev e the C. all on must one level, which is very rarely feasible. or the rise and fall of the surrounding country must be adapted in some way. This is done by the construction of a series of level reaches at varying heights above a datum line; each reach is closed by locks. The bases reach is closed by locks. of the hills and the winding of the valleys must provide the general route for these reaches, but at various places it will be found necessary to doubtless irrigation, but navigation cross an upward slope by a cutting soon followed. In ancient Egypt, India, and China Cs. undoubtedly an embankment or an aqueduct. The existed; in Egypt the Nile has from time immemorial been noted for its and sides which slope outwards from time immemorial been noted for its and sides which slope outwards from the control of the C. has a flat bottom. In districts the soil of ot calculated to withstand

of the water, it is necessary ides should be lined with This is the name given to a of tempered clay mixed r, which is worked into the distance of 2 or 3 ft.

Grand C. of Chir

it commences a

mouth of the T

and crossing the

essential that there should be sufficient water to supply the C. throughout the year if it is to be a profitable and useful undertaking. If the natural supply cannot be depended upon, reservoirs must be built which will hold sufficient. The situation, catchment area, etc., of such reservoirs will be governed by the same considerations as in reservoirs for drinking water, save that the cleanliness of the water is not so essential. Apart from the disadvantage of interrupted traffic to which an insufficient supply of water renders a C. liable, the erosion and damage to the sides are much greater when the C. is being worked on too small a supply. The dimensions of a C. are naturally regulated by the size of the boats which are used thereon. In order that the resistance of the water should be as small as possible, a table of various measurements has been According to this the calculated. breadth of the C. bottom should be at least twice as much as the greatest breadth of the boat using the C.; the depth of the water in feet should be at least one and a half times the draught of the boat; and the area of the waterway should be six times the greatest midship section of the boat. The width of an ordinary inland C. in this country is from 25 to 30 ft. at the bottom, which is flat, and from 40 to 50 ft. at the level of the water. The depth is about 4 or 5 ft., and the angle of slope of the sides varies with the nature of the surrounding soil. A C. must be able not only to supply any deficiencies in the natural water supply, but must also cope with a too abundant quantity; for purpose a number of waste weirs to discharge surplus water are necessary. If any portion of the bottom or sides of a C. is defective, it is obviously impossible to run off all the water in the canal while repairs are being carried out: the damage must be confined. For this purpose stop-gates are necessary at short intervals. are made on the same principle as a lock, or in smaller locks they are made of planks; the two stop-gates on each side of the place which is to be repaired are closed, and the water in that particular section is then run off by means of off-lets, pipes running along the bottom of the C. and fitted with valves. By this means any repairs can be effected with but slight delay and inconvenience to the general traffic of the C. The locks. which are the most general means of

vessels which use the C.; it is placed at the termination of the lower reach, and rises to a slightly greater height than that of the water in the upper reach. The gates of the lock, which are very strongly made, open against the direction of the current, and are slightly more than half the width of the lock chamber, so that they meet before they form a straight line, and are kept firmly in place by the pressure of the water. Sluices are placed in each gate near the bottom, and can be worked from the top of the lock independently of the gates themselves. When a bott wiches to escend selves. When a boat wishes to ascend from a lower to a higher reach of the C., the upper gates and sluices, com-manding the flow from the upper reach, are closed. The sluices at the lower end of the lock are opened, and when the level of the water in the lock chamber is the same as that of the lower reach, the boat enters the lock. The lower gates and sluices are then closed, whilst the sluices only in the upper gate are opened. The water in the lock then gradually rises until it reaches the level of the upper reach, when the upper gates can be opened and the boat passes out of the lock into the higher reach. When a boat descends from a higher reach to a lower, the procedure is reversed; the vessel enters the lock when the water is at the higher level, and after the lower gates have been shut and the sluices opened, passes out on the lower reach. In large locks the sluices may be carried through the walls instead of being in the gates. material of which the gates are composed is generally hardened oak; in small narrow locks a single gate at each end is sufficient. The gates are opened and closed by balance beams projecting over the lock side, which are worked either by gearing or by a hydraulic ram. The locks are not much larger than the vessels they are required to take. The English C. boat is from 70 to 75 ft. long and 7 or 8 ft. wide; a barge is the same length, but double the width, i.e. from 14 to 15 ft. The average lift of a C. lock is from 8 to 9 ft., sometimes as low as 1½ ft. In Belgium. on the Canal du Centre, the locks have a lift of 17 ft., whilst one lock on the St. Denis C. has a lift of 32½ ft. When there is a very big difference in the levels of the two reaches of the C., it is sometimes overcome by a flight of locks, in which the lower gates of one lock form the higher gates of the one below it. On many of which are the most general means of gates of the one below it. On many or transferring boats from one level to the English Cs. an inclined plane is another, are chambers made of wood. brickwork, etc., and provided with use of pleasure boats; the boats are gates at each end. The lock is of placed on the rollers which form the sufficient size to take the largest plane, and hauled over by hand. The

Canal

same principle is sometimes used for barges, but as such a method is liable to strain the timbers, etc., of large vessels, a more common arrangement is for two counterbalancing tanks to be used. Each of the tanks holds sufficient water to float a boat, two lines of rail are used, on which the tanks run, and they are connected by chains running on pulleys in such a way that as one ascends the other descends. Vertical lifts are also employed on some Cs.; they are only used where the difference in the levels of the reaches occurs in a short length of C. to obviate the construction of embankments, etc. At Anderton there is such a lift, which deals with barges as much as 100 tons burden, and has a lift of 50 ft. The horse is still used for haulage on the smaller Cs. Steam towage was first introduced about the beginning of the 19th century, but tugs towing a string of barges are only practicable when there are no locks on the C., or when the locks are so constructed as to take the tug and all the barges at the same time. If the vessels have to be taken through the locks separately. the time which is spent in going through the locks more than counterbalances the time gained on the rest of the journey. Latterly barges having a steam engine of their own are being utilised; on a portion of the Teltow C., in Germany, an electric system of traction is in use. The speed at which the least expenditure of energy is necessary is the speed of free propagation of the primary wave raised by the motion of the boat. This fact was taken advantage of by the fast passenger barges which used to run on some Cs.; when the wave had attained a fair speed, the boat was jerked forward and travelled on the speed of the wave. By this means a France joined the Bay of Biscay with speed of 12 or 15 m. an hour was attained. The ordinary speed of a forerunner of the modern ship Cs. horse-drawn ('. boat is from 2 to 11 is only 6\frac{1}{2} ft. in depth, however, 3 m. an hour; if an excessive speed and thus is not adapted for the is attempted, the wave raised washes because it is of ships of over 100 away the sides of the C. much away the soles of the C. much quickly, and the water is distu-for a long distance along th England was one of the last na... to make any use of Cs. The first C. was that connecting Manchester and

Worsley, which was proposed by the Duke of Bridgewater in 1755. The the transportation of the coal from the duke's collieries at Worsley to Manchester. The work was successfully accomplished by Brindley, the

Manchester, the other to Pennington. The length was 40 m., and the fall 2 ft. in a mile; the waterway was 5 ft. deep and 52 ft. wide. The successful accomplishment of this work encouraged others, and before the introduction of the railways the length of the navigable Cs. in Great Britain was estimated at 3000 m. On the On the Continent more importance is now attached to the utilisation of Cs. Belgium occupies a foremost place in inland navigation; it has a length of Cs. amounting to 1360 m., which is I m. of waterway to every \$1 m. of territory. £16,000,000 has been spent on the improvement of Cs. and ports during the last twenty-five years, and the result has shown it to be an enlightened policy. Trade has been materially benefited, and barges with u tonnage of 3,686,585 cleared from Antwerp in the year 1902. Germany also has realised the importance of water transport. An increase of 28 per cent. was recorded between 1877 and 1879 in the number of the boats trading on the inland waterways, and an increase of 143 per cent. in their carrying capacity. The policy of expenditure on the Cs. is still being followed, and the number of steam C. boats has largely increased. Owing to this increase the cost of transport per mile and ton is under a farthing. Austria-Hungary also has spent more than £10,000,000 on waterways in the last ten years; a system of Cs. which will connect the Danube, the Oder, the Moldau, the Elle, and the Weichsel rivers has been inaugurated. Since the days of the first C. in France, which was constructed between 1605 and 1641, the French have on the whole been keenly alive to the advantages of this method of transport. The second C. ever constructed in The French governveloping the railways have not overlooked

of Cs. and there are about 3000 m. of Cs. in France and 2000 m. of canalised rivers. Many of these waterways are maintained entirely by the state, and no tolls are levied. The French government in 1879 passed a law to secure the uniformity in the dimensions, etc., of the principal Cs.; this is an excellent step, and might fully accomplished by Brindley, the be initiated in many other countries engineer, who overcame all the difficulties. There are immense embanks ments on the old C., virducts, and locks 1264 ft. by 17 ft., and a space bridges; two branches went from the under bridges of 12 ft., thus enabling Mersey at Runcorn Gap, one going to boats which will enter the locks, of

separate river navigations. The St. Lawrence Cs. between Lake Ontario and Montreal, and the Welland C. join Lake Erie and Montreal. The size of these Cs. has been increased. size of these Cs. has been increased, and now the locks are 270 ft. in length, 45 ft. in width, and 14 ft. in depth. The Chesapeake and Ohio C. was begun in 1828, and by 1850 extended from Georgetown on the extended from Georgetown on the Potomac to Cumberland, a distance of 186 m.; its completion as far as Pittsburg on the Ohio has not yet been effected, although proposed. The Erie C., which connects Lake Erie with the Hudson R., is 365½ m. in length, the width at the better in length; the width at the bottom varies from 53 to 79 ft., that at the surface from 70 to 98 ft. whilst the depth ranges between 71 to 91 ft. The Delaware at Philipsburg and the Hudson R. at Jersey City are connected by the Morris C., which crosses a spur of the Alleghanies by a system a spur of the Alleghanies by a system of inclines; it is 102 m. in length. The present length of Cs. in the United Kingdom is 3907 m., as against 7459 m. in France, 6214 m. in Germany, and 1360 m. in Belgium. Of the Cs. in the United Kingdom 3167 m. are in England and Wales, 586 m. in Ireland, and 154 m. in Scotland. About one-third of the total mileage of Cs. belongs to various railway companies. The largest Cs. railway companies. The largest Cs. in Great Britain are the Caledonian C., the Crinan C., the Forth and Clyde C. in Scotland, and the Gloucester and Berkeley C. in England. The Cale-donian C., constructed by Thomas Telford, is remarkable for its locks, which are on a par with those in the Gotha C. at Trolhatten. The length of the C. from its southernmost point at Corpach to its north-eastern terminus at Clacknagarry on the shore of Beauly Firth is 60 m. Of this distance 37 m. are taken up by four naturally navigable fresh-water locks which are connected by a series of Cs. whose united length is 23 m. The connecting Cs. are 50 ft. in width at the bottom, 120 ft. at the top, and 20 ft. in depth. Owing to the in-

about 300 tons burden, to travel of the C. in the year 1904 were along all the principal French Cs. £7746 11s. 4d., and the expenditure The Russians have also an extensive £7284 4s.; in the same year the system of Cs. which links up their Crinan C. also showed a surplus of receipts over expenditure amounting connected by a large C., and it is proposed to connect the Volga and ever, is still behind most continental the Don. In America there are numerous Cs. which connect the separate river payiestion. The Strength of the C. in the year 1904 were along the surplus of the C. in the year 1904 were along the surplus of the C. in the year 1904 were along the surplus of the C. in the year 1904 were along the year 1904 year year Cs., a fact which was commented upon in the most interesting and exceptionally well - informed consular report of Dr. Frederick Rose in 1904. There is no doubt that a comparison of the Cs. and the railways is in favour of the former. A C. ship of 600 tons burden will transport as much goods as sixty railway waggons, is one-third cheaper in carriage per ton, costs less for working, and requires only one-thirtieth of the hauling power necessary on level railroads. Slowness and unpunctuality are the drawbacks, and in winter the stonpage of traffic by ice. The former can be avoided when each barge has its own motive power, steam or electricity; and ice could be prevented from forming by small steamers which could incessantly patrol the C. in frosty weather. These points were seen as early as 1883. In that year General Rundall, then Inspector-General of Irrigation to the Government of India, presented a memor-andum to the Select Committee on andum to the Select Committee on Canals, in which he groups the measures necessary for the development of the Ca. under the following three heads: (1) Improvement in construction, including uniformity of gauge in Ca. and locks, and their adaptation to steam haulage; improvement in the construction of C. boats; and facilities for loading and unloading at important industrial unloading at important industrial centres. (2) Amelioration of administration, including the regulation of tolls, the establishment and maintenance of through routes, and the formation of a systematic service of boats. (3) Controlling supervision, includes the questions of which amalgamation and control by a central authority. These are very much the same questions as are being much the same questions as are being discussed to-day, and in 1904, sixty-one chambers of commerce in the country, out of 101 voting, voted in favour of the nationalisation of the Cs. This was to be effected by transferring them to a national public trust, with government guarantee, supervision, and control; a similar resolution was carried in the same 20 ft. in depth. Owing to the increased size of such vessels, the Caledonian C. cannot be used by large merchantmen, but it still facilitates the passage of fishing boats between the passage of fishing boats between the proprietors of English Ca. the E. and the W. coasts, and has been very beneficial for local trade by vessels of between 500 and 600 Traffic Acts of 1854 and 1856. These tons. The receipts on the working

public by settling and publishing rates for carriage and providing facilities for transhipment. The Cs. which have been acquired by railway companies come under the same regulations as the railways; the owners are required to afford the same facilities for traffic on the railway and the C. If a C. is unnecessary, or if the proprietors leave it in an unfit state for navigation for the period of three years, the Board of Trade may authorise the proprietors to abandon the C., which may then either be abandoned or handed over to other proprietors. The sanitary condition of C. boats when used as dwellings. and the registration of such vessels by the local sanitary authorities are provided for by the Canal Boats Acts of 1877 and 1884. The local sanitary authority numbers the boats and marks them in a conspicuous place; it has also the power to regulate number, age, and sex of persons who are permitted to live in a boat, and in cases of infectious diseases the Public Health Act of 1875 may be enforced. C. companies may establish schools for the children in C. boats; the education of such children is assumed to be as if residing in the place of registration of the C. boat. The Local Government Board appoints spectors, with similar powers to those of the poor law inspectors, to see that the law is duly carried out; if the provisions of the Canal Boats Acts are not complied with, both masters and owners are liable to fines re-coverable on summary conviction. The Education and the Local Government Board are obliged to report on the execution of these Acts to parliament annually. Ship canals,-Several Cs. which

are of much larger dimensions than the inland waterways, and are designed to admit large ocean-going vessels, have been constructed o. recent years, and still others are in These Cs., course of construction. which are naturally called ship Cs., are constructed with one of two purposes. They are either designed to place inland towns in communication with the sea, or to shorten the distance by sea between two points by cutting across an isthmus. The Manchester Ship C. and the Amster-dom Ship C. are the best examples of the former class, and a short account may be given of them. The Amsterdam Ship C. severs the peninsula of N. Holland and unites the Zuyder Zee with the North Sea, but its real object was to allow the trade of Amsterdam a more direct outlet, as the N. Holland C. and the Zuyder Zee were too shallow. Only a narrow strip

reasonable manner for the needs of the of land had to be excavated between Velsen and the North Sea, as the direct route passed through Lake Y and Wyker Meer. Banks were formed along the C. by the soil which was dredged from the bottom in order to deepen the C., and by this means a considerable extent of territory was reclaimed from the sea, and so a portion of the cost was realised. The a bottom width of SS ft. and a width at the water-level of 186 ft., and a depth of 23 ft.; it is 16½ m. in length. The level of the C. is kept only 14 in. above low water in the North Sea in order to maintain the drainage of the reclaimed lands. The inflowing water from these lands and from the branch Cs. is pumped into the Zuyder Zee by pumps situated in the dam which shuts off the C. from the Zuyder Zee. The entrance channel is protected by two converging concrete breakwaters, and the C. is controlled by locks near each end with gates pointing both ways. The C. was begun in 1865, and finished in 1876, at a cost of about £2,600,000. The Manchester Ship C. was first discussed in 1882, and although it met with great opposition parliament from the railway interests, after much discussion the desired Act was obtained and the C. sanctioned in 1885. By the Manchester Ship Canal Act the old Bridgewater Navigation Co. was handed over to the new company for the sum of £1,710,000, this including the sum for the purchase of the Mersey and Irwell Cs. One of the greatest obstacles to the construction of the C. was the large expenditure necessary on account of the numerous bodies which possessed vested interests on the line of route; in addition to the sum mentioned above as paid to the Bridgewater Navigation Co., £1,214,451 was paid to various authorities for land and compensation. The C. starts at Eastham on the eft bank of the Mersey, and after skirting the shore of the estuary as far as Runcorn, follows almost the same course as the Irwell, higher up, till it comes to an end at Trafford Bridge in Manchester. The 35½ m of the C. may be divided into three sections: from Eastham to Runcorn to Latchford, a distance of \$2½ m.; from Runcorn to Latchford, a distance of \$2 m., where it is inland, but the level of the water is raised by the titles as in the as paid to the Bridgewater Navigation water is raised by the tides as in the first section; from Latchford to Manchester, a distance of 141 m.; in the last section the locks at Latchford stop the tidal action and the C. is fed by the Mersey and the Irwell. The three tidal locks at Eastham have chambers 600 ft. by 80 ft., 350 ft. by 50 ft., and 150 ft. by 30 ft.; the sills

the first large ship C. which has been constructed with locks raising vessels 601 ft. and carrying them inland, so turning an inland city into a port. The time taken to pass through the C. is about seven hours, including about half an hour for passing through the locks. The swing aqueduct for the Bridgewater C. is one of the most; notable features of the C.; it was constructed by Sir E. Leader Williams to replace Brindley's fixed aqueduct. When the aqueduct is closed traffic can pass along the Bridgewater C., but it is opened for the passage of masted ressels along the ship C.; communica-tion between the two Cs. is main-tained by a hydraulic lift. The C. was commenced in 1887 and finished in 1894: the cost was estimated at £5,330,000, but in reality came to £15,500,000. Among other Cs. of this about 2 m., when it curve ceeds in a straight line to ceeds in a straight line to
It was begun in 1877 and 1
1884, at a cost of £1,240,000. The
If the C., which saves the vessels
first C. which cut across an isthmus
to enable ocean-going ships to use a
begun in 1887 and finished in 1895
chorter route was the Suez C. This at a cost of about £8,000,000. Of late to enable ocean-going ships to use a shorter route was the Suez C. This C. connects the Mediterranean with the Red Sea; it is about 100 m. long. and has a depth of 26 ft. The traffic has increased so much and the advantages of an increased draught are so evident, that the bottom width of the C. is to be widened to about 230 ft., and the depth made 29½ ft. In 1879
M. de Lesseps, the constructor of the
Suez C., brought forward a scheme
for connecting the Atlantic and
Pacific Oceans by a C. across the
Isthmus of Panama. The route which
he proposed for the C. to take was
across the narrowest part of the
isthmus, between Aspinwall (Colon)
and Panama. The C. along this route
was begun in 1852. It was to be 47 m.
long. and the original intention of de ft., and the depth made 291 ft. In 1879 long, and the original intention of de broug Lesseps had been for the C. to be see o level throughout, like the Sucz C deser The increased cost, however, and the from

of these chambers are respectively the work, were instrumental in de 28 ft., 25 ft., and 16 ft. below the Lesseps' resorting to a locked C. It normal water-level of the C., so that was to have a width at the bottom of vessels can enter and leave at about 72 ft., and at the top of 160 ft., and half-tide. The lift of these locks is a depth of 27 ft. save through the 161 ft. The Manchester Ship C. is rock cutting of the Culebra, where a upper of 21 it. save through the rock cutting of the Culebra, where the width at the bottom was to be 78 ft. and at the top 92 ft., with a depth of 29½ ft. The scheme fell through because and a save through the scheme fell through because it. depth of 29½ ft. The scheme lenthrough, however, and the company became bankrupt; the C. was thereupon acquired by the American government. The co-t of the C. is estimated at \$200,000,000, including \$40,000,000 paid to the French C. Company and \$10,000,000 to the Republic of Panama for the concession. It was agreed that the C. should be open to all nations. In very early times it was proposed to build a C. across the 1sthmus of Corinth, and traces are found of works for such an undertaking begin in the time of the Emperor Nero. The C. was begun in 1882 and finished in 1893, at a cost of between £1,000,000 and £2,000,000. It is 4 m. in length, with a bottom width of 72 ft. and a depth £15,500,000. Among other Cs. of this a bottom width of 72 ft. and a depth nature may be mentioned the Bruges of 26½ ft.; the entrances at each end are protected by solid jetties built port; the Ghent-Terneuzen C., which provides a new outlet for Ghent by a C. joining the estuary of the Scheldt at Terneuzen, enlarged and deepened in 1870 so that vessels of 1400 to 1700 tons can reach Ghent; and the 18th Petersburg and Cronstadt Ship built between the Baltic and North C., which enables sea-going vessels to reach St. Petersburg. This C. starts from the Nova and goes The length of the C. is the control of the control at the bottom 85 ft.

years many other schemes for ship Cs. have been brought forward. It has been proposed to shorten the route to the E. coast of India by cutting through the island of Rames waram and making a navigable channel between Ceylon and India The Austrian, German, and Russlan governments have discussed schemes for a C. between the Black Sea and the Batter Sea, utilising either the Elbe and the Dulester, or the Dwina and Dnieper Rs. A ship C. across the projecting peninsula of Florida has been proposed, and schemes by which searching a substitute pay which sea-going vessels might reach Paris and Brussels have been introduced. A proposition has also been brought forward to create an inland sea of 2160 sq. m. in the African desert below Tunis by cutting a C. from difficulty which was experienced in ating raising funds for the carrying on of givin

other ideas will doubtless be heard of, in length, while the wild variety is and although all of them may not only from 4 to 5 in. long. The wild and although all of them may not be practicable, the increase in the interest taken in the question is a good sign. It shows that though railways have affected the prosperity of inland waterways, the advantages of the latter are being more clearly seen, and the immense utility of ship Cs. and the inimense utility of ship Cs. is now clearly recognised. A Royal Commission to inquire into the whole question of Cs. and Waterways was appointed in March 1906. This commission was presided over by Lord Shuttleworth and issued its final report in December 1909. It recommended that Great Britain should follow the expense of Greeners and follow the example of Germany and France in rescuing her Cs. from the decay into which they had fallen. The commissioners suggested that a Waterways Board should be formed luxuries. Cs. mate readily with to acquire the network of waterways which joined the rivers Humber, Mersey. Severn, and Thames with the Midlands. They should be improved at the cost of £17,500,000, and the annual expenditure on the unkeep of Cs. should be raised to £1,000,000.

Canale, Antonio, called Canaletto (1697-1768), a Venetian painter, first distinguished himself by painting decorations for theatres. In 1719 he decorations for theatres. In 1719 he went to Rome to study the works of the old masters, and on his return to Venice painted many views of that city. He was the creator and perfecter of a school of his own, being the first to achieve mathematical pre-cision of architectural line combined with artistic merit. His perspective was exceptionally good, and the tone and simplicity of his best work cause him to take a high place among the painters of the 18th century. He paid a visit to London in 1764, and painted some views of the city. The Louvre some views of the city. The Louvre has six of his pictures, the National Gallery eleven; examples are also to be found in the Wallace Collection, London and at Edinburgh and Dublin.

Canara, see KANARA.
Canary Bird, or Canary Finch
erinus canarius), a well-known (Serinus passerine bird of the family of Frin-gillide or Finches, It is found in large numbers in the Canary Is., Madeira, and the Azorez, but has been domesticated in Europe since the 16th century and is one of the most In its wild common of cage-birds. state the plumage is green, sometimes streaked with brown, and resembling a linnet and siskin, the prevalent yellow of the domestic species being the result of artificial selection for breeding purposes. The artificial breeding purposes. The artificial selection has also resulted in increas-

C. builds its nest of moss, feathers and hair in thick, high shrubs or trees, and produces two or four broods in a season, but it breeds readily in confinement, sometimes laying from four to six eggs, pale blue in colour, four times a year. The work of building the nest and of incubation is generally the part of the female, while the cockbird usually feeds the young. The natural song of the C. is loud and clear, and during the mating season the males seem to compete with one another in the ardour and beauty of their melody. It can be taught various notes, and readily imitates the notes of other birds. Their chief foods are canary and millet seeds; grounsel, chickweed, and sugar are appreciated

yrol. The chief varieties of the domesticated C. are the Norwich, which is the hardiest, and of a very rich colour; the Belgian Fancy, the most beautiful and costly; the Lizard, so called from its spotted back; the Cinnamon, so named from its colour; the Yorkshire, a long thin, closely feathered bird; the Lancashire Coppy, the largest variety, with a crest of feathers on its head; the London Fancy, a little yellow or biscuit-coloured bird with black wings and tail; the Scotch Fancy, a large imposing variety, bred largely in Scotland; and the Roller C., a very small bird, bred chiefly for its unusually beautiful song. There are several beautiful song. There are several varieties of Finches very closely allied to the C., and often sold as such, but they are generally very inferior as song birds. Canary Islands (from Canar, Berber

is a

name of an African region), thirteen islands in the Atlantic Ocean. They are of volcanic origin, and form a province of Spain. The principal islands are Teneriffe, Grand Canary, Palma, Ferro or Hierro, Lanzarote. Gomera, and Fuerteventura; the other six are exceedingly small: Graciosa, Rocca, Allegranza, Santa Clara Inferno and Lobos. From Clara, Inferno, and Lobos. their position, and their nearness to Africa, they probably form a continuation of the great mountain system of N. Africa. The islands are all of a rugged and mountainous character, the chief peaks being those of El Cumbre in Grand Canary (5812 ft.), and the Peak of Teydein Teneriffe (12,182 ft.). They are most healthy, as during the summer and autumn there is hardly any rainfall; the rainy season lasts from November to March. ing the average size of the bird, the season lasts from November to March. domestic variety being from 6 to 8 in. The products of the Canaries are sub264

Canary

tobacco are grown. Such fruits as tomatoes and bananas are largely cultivated, especially in Teneriffe and Grand Canary, for export to the British markets, the value of the bananas exported in 1903 being £375,850, and that of the tomatoes £182,000; potatoes to the value of £30,886 were also exported. Among the other exports are tobacco, cochineal, sugar, and petroleum. principal pursuits of the inhabitants are agricultural, but some fishing is carried on, there are sugar and tobacco factories, and lace and embroidery are made by the women. The principal ports of the group are at Las Palmas, in Grand Canary, and Santa Cruz de Teneriffe. The popula-

The islands were first discovered in 1334, and taken possession of in 1402 by Jean de Bethencourt, a Norman, who gave up his title to them in favour of the King of Spain. them in tavour of the King of Spain.
In the map which Andreas Bianco
published in Venice in 1436 the
position of the Canaries is given
very accurately. The Spaniards did
not consider the islands of much
importance, as Henry the Navigator
of Portugal took possession of them,
and went exploring from them slang and went exploring from them along the coast of Guinea. In the year 1478 the Spaniards determined to regain possession of the group, and by the end of the century they had com-pletely conquered the original in-habitants, and were masters of the whole of the archipelago. Pop. about Six Satellites, by Olivia M. Stone, 1889, etc.

Canary Seed, the seed of the Canary grass (Phalaris canariensis), which grows in the Canary Is. It is cultivated as a food for cage birds, and in the Canaries, Barbary, and Italy is sometimes used as a sub-

stitute for wheaten flour.

Cancale, a small tn. in the French dept. of Ille-et-Vilaine, situated 8 m. N.E. of St. Malo. It is celebrated for its oysters. Pop., including the port

Cancellieri, Francesco (1751-1826), a French historian, born at Rome. He was made director of printing at the Propaganda in 1802. His literary activities were varied, and many formation of an internal C., and there

tropical in character; the vine, the De secretariis veterum christianorum sugar-cane, and wheat, maize, and et basilicæ Vaticanæ, 1786; Bibliotobacco are grown. Such fruits as theque pompétenne, 1813; Les sept choses fatales de la Rome antique, 1812.

Cancer (Lat. cancer, Gk. καρκίνος), in zoology, a genus of the crustacean family Cancridæ (see CRAB); in astronomy, a constellation repre-sented as a sign of the zodiac by a crab, its chief importance lying in the fact that it denotes the northern limit of the sun's apparent course in the heavens in summer: hence the Tropic of Cancer (see Tropics) is that meridian on the earth's surface marking the northern boundary of the latitudes where the sun has at any time an altitude of 90°; in pathology, any malignant growth, but specifically applied to a tumour technically termed carcinoma; plural carcinomata.

A C. consists of a stroma, or framework of connective tissue surrounding nests of cells of an epithelial type, that is, similar to those cells which form the outer skin lining of all canals which have communication with the external air. Epithelial cells differ in nature according to their function. which may be merely protective, or secretory or glandular, and Cs. may be classified according to the structure and nature of the cells which compose them. Adenoid C., or adenocarcinoma, consists of columnar or tubular cells, and occurs most commonly in the stomach and intestines. Colloid C. consists of cells which undergo rapid degeneration into a jelly-like mass; it affects usually the alimentary canal, uterus, etc. Cylindric is a name given to a C. where the cells assume a cylindrical shape. Encephalis loid C. is a soft C. containing a rela-400,000. See Madeira and the Canary tively small amount of stroma and a Islands. by A. S. Brown, sixth ed., greater amount of cells and blood-1901; History of the Canary Islands, vessels. Glandular C., one in which by G. Glas, 1764; Teneriffe and its the cells are of a secreting type. Scirrhous C., or hard C., consists of a stout fibrous stroma and closelypacked cells; it occurs most com-monly in the breast. Squamous C., one derived from a scale-like mass of epithelium, with cells cuboid in shape. Different varieties of C. differ in their rate of growth; in general it may be said that soft Cs. show the greater activity. The symptoms in the early stages of a growth are not usually very reliable. If the location be internal it may painlessly develop until either its great size interferes with the proper functioning of some organ, or

volumes of memoirs, pamphlets, lec; is a more definite symptom in the tures, etc., were produced by his ready 'cllowish pallor which is to some pen; his compatriots named him extent characteristic. An external 'the new Varro.' His works include: growth occurring on the breast, lip,

or tongue should be promptly ex-! peculiarly liable, was probably caused amined by a medical man, and it is in part by the irritating effect of soot. not too much to say that any abnoretc. The chewing of betel-nut, and mal swelling should be attended to the eating of hot rice in China have without delay, as the surgeon's only been shown to be associated with hope is early operation. The need for cancerous growths. a certain amount of care in this mat-ter should not occasion alarm; be-tracing any possible connection because although on the one hand the indefinite nature of the early symptoms and medical lack of knowledge of the nature of cancer has caused its name to be universally dreaded, it must not be forgotten that the chances are enormously in favour of any slight manifestation ultimately being traced to a much less serious condition. The only successful treatment, up to the present time, has been removal by operation. There have been cases where the progress of the disease has been stayed, and even cases where ultimate recovery has followed some other treatment, but unfortunately such cases have not yet led to a general cure. When removal is impossible or hopeless, the treatment aims at alleviating pain: and sometimes operation is resorted to with no further end in view than to temporarily relieve the patient. The cause of C. is still unknown. It is probable that many different causes may operate, and good work has been done in investigating probable causes by researches conducted under the auspices of the Imperial Cancer Re-search Fund. The able administration of this fund and the unselfish co-operation of medical men and scientists throughout the empire has led to the accumulation of a body of statistical and experimental knowledge, which, though it has had no very definite results, has put the inquiry on a proper footing. Many investigations have been conducted with a view to finding a specific with a view to maning a specimic micro-organism for C., but without satisfactory results. The arguments are the formula of the control of infection by the control of the c somewhat difficult to understand how the hypothetical organism picks out irregular motion, which leads to the

tection. Cases are quoted, too, which appear to show that an embryo escapes the disease although the uterus may be diseased, and on the other hand, a child may be born from a healthy womb with C. developed at an early period in its fætal life. The effect of irritation in the formation of cancerous growths has been widely discussed. There is no doubt that

Statistics have tween certain varieties of diet and C .. and although statements have been made about fish-eating people and rice-eaters as being peculiarly liable, they probably do not represent a sub-stantial part of the truth. With regard to the question of heredity. more satisfactory information has been obtained through long extended experiments with many generations of mice; and it has been established that mice with a cancerous ancestry are more liable to C. than those born from a healthy line. It is only when information is gathered upon the comprehensive scale adopted by the Imperial Research Fund committees that reliable statistics can be obtained. With the collaboration of the various governments of the empire, the incidence of C. among different races and for different limits of age has been studied. One of the most encouraging conclusions from these statistics is that the supposed alarming increase in C. cases has no foundation in fact; as regards the lower age-periods a decrease is reported.

Cancer, the name of a genus of decapod crustacean to which belongs C. pagurus, the edible crab. The species live in pairs in holes of rocks.

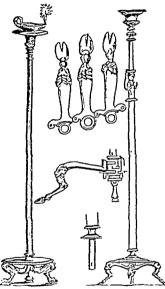
Cancer, or The Crab, the fourth of the twelve constellations of the zodiac. denoted by the sign 5, and marking the limit of the sun's course northward in summer. It contains a large, loose cluster of stars known as Præsæpe, the Beehive, which appears as a nebula to the naked eye, and & Cancri, a triple star whose two close stars revolve about each other in a period of sixty years, and a third which revolves about the other two. in the opposite direction, in seventeen and a half years. The latter has an

invisible body which itself around the other two stars. Cancer, Tropic of, see TROPICS.

Cancionero, a Spanish (and Portuguese) word used to describe a collection of early lyrical poems, especially such a collection as was made by the poetic guilds which flourished in the middle ages. The oldest is that of John Alphonso Baena, a converted Jew, who was secretary to John II. Its poems belong to the 14th and 15th irritation is often at least a predis-centuries. A later C., attributed to posing cause, and chimney-sweep's Lope de Stuñiga, contains songs by C., to which sweeps at one time were poets who accompanied Alphonso V.

Candle 266

in his imprisonment at Milan. The first Cancionero General (published first Cancionero General (published in 1511) was that of Juan de Fernandez, embracing lyrics by over a hundred writers, the earliest of whom is the Marquis of Santillano. The best known of the Portuguese collections is that of Dom Diniz (1279-1325). These books of poems are important because of the flood of light thay there on contemporary of light they throw on contemporary manners and ideals. The word C. has also been used to describe a series of poems by different authors, which deal, however, with the same subject.



CANDELABRA

Cancroma, see BOATBILL. Candaba, a tn. in island of Luzon in the Philippines, on the Pampanga, some 20 m. from Bacolor. Has textile

some 20 m. from Bacolor. Has textile industries and good fisheries near Candaba Lake. Pop. 14,585.

Candace, a queen of the Ethiopians at Meroë. She was promptly defeated by the Roman governor, Petronius, when in 22 B.c. she made an incursion into Egypt, and was obliged to recognise Augustus es

obliged to recognise Augustus as emperor. Candahar, see Kandahar.

of Aragon to Naples, and afterwards and 22 m. S. of the tn. of, Foggia in his imprisonment at Milan. The in Apulia, Italy. Pop. (1901) 6649.

(Lat. Candelabrum candle), a large candlestick, and also a lampstand. Candelabra were used by the Romans for domestic purposes and also in sacred rites. They were generally made according to one design, with a base formed of three or more feet of some animal, the shaft branching off into arms which ended in spikes for candles or in flat discs from which lamps could be suspended. Specimens have been found Pompeii, Herculaneum, and Etruria. Some are beautifully wrought in various metals; others are more massive and are carved in marble.

Candia, the largest city in the island of Crete; a name once given to the whole of the island. It is situated to the N. of Mt. Ida, almost in the centre of the northern coast. The city once was in the possession of the Venetians, from whom the Turks captured it in 1669 after a siege of nearly twenty-Hostilities between the one years. Mohammedan and Christian inhabitants have been frequent. Greece became involved in a war with Turkey on behalf of the Christian residents of the island, when for nearly a year C. was under blockade. The town is very picturesque with its bazaars and mosques and old Venetian fortifications. There are numerous exports, including soap, dried and almonds: oil, raisins. steamers run regularly to Constanti-nople, Athens, Smyrna, etc. Pop., which is mixed, Turks predominating, numbers about 22,000.

Candidate (Lat. candidatus, whiterobed, because Roman candidates wore white), the title given to any-, one who takes steps towards fulfilling his aspirations for any office, post, or honour, and especially one who is willing to stand in a parliamentary election. Technically there is no legal decision as to when the aspirant be-comes a C. Thus he is popularly recognised as such the instant he enters on an active campaign for the promotion of his object, whilst certain judges regard the appointment of the election agent as the definite sanction of his candidature. The Corrupt and Illegal Practices Prevention Act. 1883, gives the following definition of a parliamentary C.: 'Any person a parliamentary C.: 'Any person elected to serve in parliament, and any person who is nominated as a C., or is declared by himself or others to he a C. on or after the day of issue of the writ, or after the dissolution or vacancy in consequence of which such a writ has been issued.

Candle, a source of artificial light. Candeish, see KHANDESH. Cs. are usually cylindrical in shape Candela, a com. in the prov. of, and are made of wax, tallow, or of some other solid latty material, enveloping a wick of cotton, flax, or linen thread. Until the middle of the 18th century, wax and tallow were the only materials employed in the manufacture of Cs., but now they are made of spermaceti, paraffin, paim and cocoanut oils, and stearin. The methods of menticutes various at the methods of menticutes are serviced. methods of manufacture vary according to the material used. They are either dipped, moulded, or rolled. (1) Dipped Cs. are made as follows: number of wicks of a suitable length are suspended from a frame, so that the distance between each wick is equal to about double the intended diameter of the Cs. to be made. The wicks are dipped in turn into a trough of melted tallow. This operation is of metical tanow. This operation repeated again and again, the tallow being allowed to cool before a second immersion, until finally the required thickness is obtained. The outside thickness is obtained. The outside edge is then smoothed and polished by machinery. (2) Cs. of spermaceti, stearin, and paraffin are usually moulded. For moulding Cs., a frame, holding together a great number of well-polished metal tubes, is used. Through the centre of each tube the wick is securely fixed; all the tubes are connected with a trough, so that when the melted material is poured into the trough, the tubes are filled simultaneously. The Cs. are left in the tubes to set hard. Moulding is now the most usual method of manufacturing Cs., as the whole process of pouring in and removing superfluous melted fat can be accomplished by machinery, and as many as a hundred Cs. can be moulded at one time. (3) Wax cannot be moulded, because in cooling it contracts to a great extent and sticks to the moulds. Wax Cs. are, therefore, basted and rolled. The wick is first dipped into melted wax, until a sufficient quantity has thickened round it; then the C. is well rolled between two flat pieces of smooth wood, before the wax has set. Formerly, wicks were made out of the pith of a rush, and later of cotton The imperfectly consumed portion of the wick had to be removed from time to time by snuffers, an instrument resembling a pair of scissors with a small box attached into which the wick-ends fell. In 1825 Cambacères invented the plaited wick, which, when sufficiently burnt, mechanically falls outside the flame, and, by contact with the oxygen of the air, becomes completely con-sumed. Wicks are now always manufactured so that they are self-consuming and leave practically no ash. Tapers are made much longer than

some other solid fatty material, purposes in cases when the light of a enveloping a wick of cotton, flax, or match is not of sufficient duration. linen thread. Until the middle of the light, on the other hand, are 18th century, wax and tallow were very short and thick, their object the only materials employed in the being to burn slowly and dimly for manufacture of Cs., but now they are a long time. It is estimated that made of spermaceti, paraffin, palm about 36,000 tons of Cs. are made annuclature vary according to the material used. They are the control of the control of the material used. They are the control of the control

Candleberry, Wax-myrtle, and Bayberry, are all names which are given to Myrica cerifera, a N. American species of Myricaceæ, which is allied to the bay-myrtle. The fruit, when ripe, is boiled, and yields wax which is

manufactured into candles.

Candle-fish, Oulachan, or Thaleichthys, the name of a genus of malacopterygious fishes of the family Salmonidæ; it is closely allied to the smelt. It inhabits the Pacific coast of N. America and contains so much oil—more perhaps than any other animal—that it will burn like a candle.

Candlemas, the feast of the Purification of the Virgin Mary, celebrated by Roman Catholics on Feb. 2nd. The festival gets its name from the fact that on that day there is a procession of candles, and those candles which will be required in divine service for the ensuing year are consecrated. The festival is also observed by the Church of England and by the Armenian Church. It has been compared with the Roman festival held in honour of Februa, mother of Mars, when candles were burnt; possibly the old custom was utilised by the Church and turned into a Christian ceremony. In Scotland, C. Day is the first of the quarterly terms, when interest, taxes, rent, etc., must be paid. The state of the weather at this time is said to determine that of the year.

'If Candlemas is fair and clear, There'll be twa winters in the year.' Consult Duchesne, Christian Worship,

1904; and Brand, Popular Antiquities, 1849.

Candlenut, or Aleurites triloba, a tropical species of Euphorbiacea which is grown on account of the oil and the dyeing properties contained in the nut. The flowers are large and white, and the fruit is the size of a walnut.

1825 Cambaceres invented the plaited wick, which, when sufficiently burnt, mechanically falls outside the flame, and, by contact with the oxygen of the air, becomes completely consumed. Wicks are now always manufactured so that they are self-consuming and leave practically no ash. Tapers are made much longer than Cs. They have a thick, loosely-twisted wick, thinly covered with and the gift of representing with a wax. They are used for lighting

insight into character and life, soon drew to his church a very large congregation. After his first speech in the Assembly in 1839, he at once came to the forefront of those who later constituted the Free Church, and the part that he played in securing the Microstitute and the part that he played in securing the Microstitute and the part that he played in securing the securing t ing the Disruption was second only to that of his friend and leader Dr. Chalmers. Moderator of the Assembly in 1861, he accepted the principal-ship of New College, Edinburgh, in the following year. Although C. the following year. Although C. contributed not a little to theological literature, he is justly remembered as the practical and enthusiastic promoter of good causes; for he worked unceasingly to secure the union of the various dissenting Presbyterian sects. and the speedy advancement public education.

Candolle, Augustus Pyrame dь a celebrated Swiss (1778-1841). botanist, born at Geneva, of an ancient noble Provençal family. He came to Paris in 1797 for the purposes of study, and published (1802) Astraga-logia. Two years later he obtained his doctor's degree on the thesis Essais sur les Propriétés Médicales des Plantes Comparées avec leurs Formes Extéricures et leur Classification Natur-elle. He began to lecture in the Collège de France in the same year, and in 1805 published four volumes of the Flore Française, followed by six volumes in 1815. The French government employed him to carry on research work in botany and on research work in botany and agriculture in France and Italy during the years 1806-12. He was appointed to the professorship of botany at Montpellier University (1810-16), and held the same chair at Geneva (1816-41). C.'s most important work was Regni Vegelabilis Systema Natural (9 vols 1818-21) which was rerale (2 vols. 1818-21), which was re-issued under another name as Prodromus Systematis Naturalis Regni Venetabilis (17 vols. 1824-73), to which he did not contribute more than the first seven volumes. His valuable herbarium was bequeathed to his son, Alphonse Louis. Consult his Mémoires et Souvenirs (ed. by his son in 1862) and De la Rive's De Candolle, 1851.

Candon, a city in the Hocos Sur prov., near the W. coast of the island of Luzon in the Philippines. Has cotton factories. Pop. 15,797.

Candy, see KANDY.

corymbs of flowers, in which the outer petals are of greater length than the others and give it a more showy appearance. The species are often appearance. The species are often cultivated in British gardens as herbs or small shrubs, annuals, or peren-

nials. I. amara grows wild in Britain. and receives the various names of and receives the various flames of wild, or bitter, C., clown's mustard, and sciatica cress; the term C. itself is said to have been derived from Candia in Crete. I. Alpina and I. Gibrallarica betray their habitat by their specific names; I. semperflorens and I. sempervirens are the broadleaved and evergreen C. respectively.

Cane, the name applied to several plants, but most properly to those belonging to the genus of palms known as Calanus from which rattan canes are made. The stems of these plants are thin and reedy, and they are much used in bottoming chairs, in

All the plants which yield rattan come from tropical regions of Asia, Africa, and Australia. The sugar C. is really a grass which is cultivated in the tropics for the sweet juice it contains; its botanical name is Saccharum officingrum. The Cs. which are employed in making fishing-rods are the pliant stems of the large grass. Arundo Donax

Canea, or Khania, the cap. and chief commercial tn. of Crete, situated on the north-western coast, 70 m. from Candia. The town was built on the ancient site of Cydonia by on the ancient site of Cyuonia of the Venetians, whose colonists settled here in A.D. 1252. The town was captured by the Turks after a two years' siege in 1669. There is a fine, though somewhat shallow, harbour, and a flourishing export trade in soap, oil, and wax. Pop. (1900) 21,025.

Canella, a small genus of Canellage accurs on the coast of the West.

lacere, occurs on the coast of the West Indies, especially of Jamaica, and in woods of the mainland of S. America. C. alba yields the C. bark which is used as a tonic and stimulant. bark is freed from its outer rind, is white in colour, and smells like cinnamon, whence it is also called white cinnamon.

Canelli, a com. in the prov. of Alessandria, Piedmont, Italy, 13 m. S.E. of Asti. Pop. of town about 3000.

Canelones, or Guadalupe, the cap. of the dept. of C., in the S. of Uraguay, 24 m. N. of Montevideo. Pop. of town less than 4000.

Venatici, Canes the ' Hunting Dogs,' a small constellation, added by Hevelius in 1690. They are close Candytuft, or Theris, a genus of behind the Ursa Major, and near Cruciferse which flourishes in Europe Boötes and Coma Berenices. The and Asia. It is noted for the peculiar chief stars are Cor Caroli, so named by Halley after Charles II., which is a double star of magnitudes three and six; a spiral nebula, discovered by Lord Rosse, 1845; and a cluster of 900 stars of the eleventh magnitude.

Canete, Manuel (1822-91), a con-

dramatic critic, and has striven to raise the standard of the drama of his country. He has also done much to make known the history of dramatic art in Spain, and to popularise the works of its dramatists. Among his works are: Unrebato en Granada, La llamada Josefina, and

lyrics, odes, and letters. Cang, Cangue, or Kea, an instrument of punishment used in China. It is a ring or heavy wooden yoke, the weight of which varies according to the nature of the culprit's offence. The man's head and shoulders are fastened into this cage, so that he is unable to lie down or feed himself. On the C. is inscribed his name, the nature of his offence, and the duration of his punishment. He is paraded through the streets, and finally left in some open thoroughfare, or at the city gates, till hissentence has expired. which may last for some weeks or even months.

Cangas de Onis, a small tn. of Northern Spain, in the prov. of of considerable historic Orviedo: interest, and has in its environs numerous remains of Roman occupation. The famous abbey of Covadonga is in its neighbourhood.

Cangas de Tineo, a tn. of Northern Spain in the prov. of Orviedo, engaged in farming, leather, cloth,

and pottery industries.

Cange, Charles Dufresne, Sieur du (1610-58), a French scholar, born at Amiens, and died in Paris. He was educated at the Jesuit College in his native town; became government treasurer in Amiens, and, in 1631, a parliamentary advocate in Paris. Du C. devoted his life to the study of the of

igs show produc-Scriptores (3 vols.,

1678), which went through many editions, and was much enlarged by Carpentier and later by Faire (10 vols., 1884-87); Glossarium ad Scrip-tores Mediæ et Infimæ Græcitatis, 1688; and Histoire de l'empire de Constantinople sous les empereurs français, 1657. Consult Fougère, français, 1657. Consult Fougère, Essai sur la vie et les ouvrages de Du

Essat sur is vie et tes ouvrages av Du Cange (Paris, 1852). Cango, a tobacco and brandy-pro-ducing dist. of S. Africa, about 20 m. N. of Oudtshoorn. It is famous for its magnificent caves, where some of the finest stalactites in the world are to be seen.

Canicatti, a tn. on the Naro in city, in the neighbourhood of Sicily, famous sulphur mines.

temporary Spanish writer. He was from canicula, a little dog), the dog for many years Spain's principal days; the period (July 24 to Aug. 26) days; the period (July 24 to Aug. 26) during which Sirius, or the Dog Star, rises with the sun.

Canidæ, the dog family, which includes wolves, foxes, jackais, etc., constitutes the group Cynoidea of the Carnivora, and is placed between the cats and the bears. Huxley divided the species into two series, the Thovid. or wolf-like, and the Alopecoid, or fox-like, but different zoologists favour various divisions. All the members of the family are carnivorous, but some will eat vegetables and insects as well. They are cosmopolitan and nearly always hunt in packs: they are found abundantly in fossil state with many extinct species. The number of teeth varies in the genera, but the commonest form is that with forty-two-three incisors, one canine, and four premolars on each side of the upper and lower jaw, with two or three molars on each side of the upper, three on the lower jaw. The origin of the domestic dog, Canis familiaris, is unknown, and wild dogs abound in S. America. Canis vulpes is the S. America. Came vulpes is one common fox, C. lagopus the Arctic fox, C. dingo the dingo, C. vulpes the wolf, C. aureus the jackal, C. latrans the prairie wolf; Ictiquo venaticus is the bush-dog; Olocyon megalotis is a solitary African species; Lycaon pictus is the Cape huntingdog.

Canigou, The, a mountain of France, at the extremity of one of the lateral chains of the Oriental Pyrenees. is of granite formation and is clothed with vegetation almost to its summit, the orange, vine, chestnut, potatoes, fir, birch, rhododendron, and juniper flourishing at their respective alti-Its ancient manganese mines tudes. are still worked.

Canina, Luigi (1795 - 1856),Italian architect and archæologist, born at Casale in Piedmont. He was professor of architecture at Turin, then he went to Rome where he spent many years minutely and laboriously studying its ancient buildings. The results of this work are embodied in L'Architettura antica descritta e dimostrata coi monumenti, and in a topographical plan of old Rome. He also directed the excavations of Jusculum, Veii, and the Appian Way; his writings are much valued throughout Europe.

Canis, see Dog. Canis Major, or Orion's Dog, a constellation of the southern hemisphere. below Orion. Its chief star is Sirius. by which the constellation may easily be found, this star being on the ex-tension of the line through Orion's belt.

Canis Minor, a constellation of the Canicula Days (Lat. canicularis, southern hemisphere, N. of Canis on the line between Sirius and Pollux.

Canister Shot, see Case Shot.
Canister Shot, see Case Shot.
Canitz, Friedrich Rudolf Ludwig,
Freiherr von (1654-99), a German
poet, born at Berlin. After a careful
education, completed by travels in Italy, he held many posts of honour at the court of Berlin, and under-took a number of diplomatic missions. He was gentleman of the bedchamber to Friedrich-Wilhelm I., councillor of state under Friedrich I., and Leopold created him a baron of the empire. He wrote many satirical poems in the style of Boileau, with odes, hymns, and other poems. His Poetical Recreations were very popular in his time.

the name of a plant-Canker, disease which attacks fruit trees, such as the apple, and sometimes foresttrees, as is the case with the larch. It may usually be found to be present when the bark begins to split, or when the ripe fungus protrudes from the wounded bark. Many varieties of low plants may cause the disease, but the one to which most importance is attached is the Nectria dilissima, a fungus which usually attacks the new shoots, works gradually towards the trunk, and finally kills its host. When ripe it is white in the autumn and red in the spring. The best methods of curing the tree of C. are to cut off the diseased branches, or to cut out the affected parts, and to smear over the wound with an impermeable substance.

Cannabis Sativa, the hemp-plant, forms a genus of Moraceæ, or, according to some botanists, of a smaller order Cannabinaceæ. It is a native of Central Asia, and is cultivated both for the fibre known as hemp which it produces and for the drug it contains. The hemp is made from the tough bast-fibres, and is used for making ropes and in weaving; from the resin it exudes hashish is made in the East. and bhang from the mature leaves, together with the resin they contain. The flowers are directions, and re-semble those of their near kindred, Humulus lupulus, the hop.

Cannaceæ, a monocotyledonous order of plants which is frequently united by botanists to Marantaceæ. It contains a single genus of plants, all of which are tropical or subtropical. C. indica (Indian shot) is a handsome ornamental plant often cultivated on account of its appearance. The in-florescence is terminal, the flowers hermaphrodite, asymmetric, and epi-gynous, with three free sepals and three united petals; the fruit is a

Major. Its principal star, Procyon, lies; inner whorl bears a bilocular anther on its edge: of the petaloid structures. the staminodia, one is larger, turns back on itself, and is known as the labellum. The gynæceum is inferior and consists of three carpels which are trilocular, have a petaloid style, and contain numerous ovules. Nearly all the species of Canna have a great deal of starch in their rhizomes, and arrowroot is made from C. edulis. This plant has large, tuberous roots, smooth leaves, and stems coloured at the base.

Cannæ, an anct. city of Apulia in Southern Italy, near the mouth of the Aufidus (now Ofanto). The town is celebrated for the great battle in Roman history when Hannibal inflicted a crushing defeat on the Roman army, led by the consuls Æmilius Paulus and Terentius Varro, 216 B.C.

Cannanore, a seaport and military station of the Malabar dist., Madras, British India: a British possession since 1791; exports pepper, timber, grain, and cocoanuts.

Cannes, a fashionable wateringplace of the Riviera, in the dept. of Alpes-Maritimes, France. The town is pleasantly situated on the Gulf of La Napoule, and is famed for its climate. Among the interesting features of the town are the watch-tower of a mediæval castle, built by Abbot Adelbert in 1070; the bridge called Pont-de-Rion; a museum of antiquities; and the Albany Memorial Church of St. George of England, visited by Queen Victoria in 1887. The town was founded by the Romans on the Via Aurelia, and has suffered repeatedly from bombardment. Lord Brougham, to whom a statue is erected on the principal promenade, the Allée de la Liberté, lived at C. and founded its reputation as a winter resort. There are many orange orchards and flower plantations, which form the chief industries; there is also trade in soap, olive oil, and salted fish. Pop. (1901) 22.799.

Cannibalism, or Anthropophagy (Gk. αιθρωπος, man, φαγείι, to eat), the practice of eating human flesh. The word is a variant form of Carib. Caribes, a fierce man-eating tribe of the W. Indies. C. has, at some time or other, existed in almost every part of the globe, in N. and S. America, Europe, Africa, India, New Zealand, and Australia. Strabo asserted that C. existed in Ireland, and the authority for the report that the practice once prevailed in Scotland is St. Jerome. As late as 1782 gypsies were executed in Hungary for practising C. It is still known among the tribes of W. capsule. The andrecium is repre- and Central Africa, New Guinea, sented by a number of petaloid bodies Melanesia, and the N.W. coast of N. in which the posterior stamen of the America. C. may often be traced to

Among certain African tribes, the Niam-Niam and Monbuttu, human flesh is put up for sale in the marketcure a constant supply of human flesh to satisfy their needs. Higher motives for C. are those due to superstition or religion. It was thought that a man acquired the qualities of the thing he ate. Thus the heart of a lion, consumed by a chief, would make him valiant in the fight. Accordingly, a man would eat his enemy in the hopes of acquiring his courage or persever-ance. This motive for C. existed among the Issedones of Central Africa, mentioned by Herodotus (iv. 26). The Maoris, Australians, and Indians of N. America believed in the transmigration of souls. The eating of the enemy might, therefore, prevent his finding another results professions for his spirit, and would secure the murderer against being haunted by the cheet of the murdered. In vent his finding another resting-place the ghost of the murdered. In Australia certain tribes felt that the most fitting burial place for the deceased was within their living Such funeral feasts were relatives. attended by many religious rites. Children ate their parents so that their virtue might be retained in the family, and likewise parents occa-

magicians of N. America, whose rule it was to eat human flesh for admittance to their order. Consult Andrec,

Endocannibalismus, 1896.

Canning, the process of preserving meat, fish, fruit, etc., by scaling up in cans or tins. The principle upon which this process is based is that of excluding the air from the produce it is desired to preserve. Before C. was thought of, many methods of covering the cooked food with an air-

an economic cause. Even among tight coating were experimented with modern civilised races it has been re- These all failed for the reason that, sorted to in cases of dire necessity, although the air was thereby exsuch as siege, famine, shipwreck, etc. cluded, the germs contained in the Savage tribes may be prompted by air were not; these were imprisoned bunger to kill and eat men when the fight of the food and worked havoc by flesh of animals is not available. The causing putrefaction. In C. the air taste for human flesh when once acities expelled and the germs killed at quired grows into a fierce desire, one and the same time by subjection which no other form of meat will to intense heat. The meat or other satisfy, so that a gluttonous, deprayed, food is packed in cans which are then taste may sometimes account for C. placed in a solution of calcium chloride heated to a temperature of 270° F. The cans remain in the solution and at the same temperature places, and corpses of relatives are for three hours, during which time consumed as food. A S. American germs and spores are destroyed, and tribe used formerly to breed from air and steam escapes through a pintheir captive women, in order to pro-hole which has been left in each can The holes are then soldered up and the tins allowed to cool. Food thus preserved should, if the process has been perfectly carried out, remain in good condition. Experiments have proved that even after twenty years there is no sign of deterioration. This could occur only if the process were not thorough, and the presence of putrefaction could be detected by a bulging of the can due to gases developed in the course of decomposition. C. was probably invented by M. Appert of Paris about 1810, but many others made experiments in the same direction. In Britain, London and Aberdeen are the chief towns engaged in the industry, but vast quantities of canned foods are sent out by America and New Zealand. Canning, Charles John, Earl (1812-62), a statesman, governor-general of India during the Mutiny of 1857. He was the son of George C., was educated at Eton and at Christ Church, Oxford; represented Warwick in the House of Commons in 1836; and entered the House of Lords on the death of his mother, who had been raised to the peerage. Under Peel's administration C. was Under-Secretary of State, Chief Commissioner of Woods and Forests in 1846, and Postmaster-General, 1852-55. In 1856 he became Governor-General of India, and when the Mutiny broke out his strong moral qualities, good administrative ability and clear judgment enabled him to deal with the situation in a masterly way, little expected of him by many who felt that his powers were not equal to the occasion. His policy of conciliation towards the native princes, and his devotion to the work of reform and development of the country stood him in good stead in a very difficult position. His dealing with the re-bellion in Oudh caused much angry

controversy, but at the close of the troubled period he received the thanks of both Houses of Parliament.

man, was educated at Eton and spite of what has been said to the Christ Church, and even in these early days showed himself possessed of in his views, though the frequent unusual abilities. Favouring the Whig policy at first, the French Revolution drove him, as it did so many others, glance. He was what may perhaps be to support the political party that opposed it, and when he entered parliament in 1794 it was under the Tory banner. He won golden opinions in the House of Commons, and a couple of years after he took his seat Pitt made him Under-Secretary for Foreign Affairs, and quickly promoted him to the office of Commissioner of the Board of Control (1799), and then to Paymaster-General (1800). When Pitt returned to office with the should be read Addington administration, towards which, although nominally a supporter, he acted the rôle of 'candid friend.' When Pitt returned to office in 1804, C. became treasurer of the long of the pioneers of in 1804, C. became treasurer of the an engineer and one of the pioneers of navy; and, on the death of his leader two years later, he declined to serve in the cabinet of 'all the serve in the cannet of an tag talents. He became Foreign Minister assisted in laying the first Atlantic under Lord Liverpool, but disagree-cable. He laid the Atlantic cable of war minister on Sept. 21. 1809. in Cannock, a mrkt. tn. of Stafford-which he was slightly wounded. When shire, near Walsall. C., Brownhills. Perceval came into power. C. took a Chase Town, Hednesford, and other which was eventually accepted. Two about 30,000 at the present day, years later he accepted the appoint. Cannon, see Guns. rears later he accepted the appointment of Governor-General of India, Cannon-ball Tree, or Couroupila but on the eve of his departure Castle-quianensis, a species of Lecythireagh committed suicide, and he dacke which is found in S. Foreign Office. On Liverpool's death, capsule, and this has earned for the C. became Prime Minister and Chancellor of the Exchequer, but, quarrelling with many members of his own party, he had to rely for continuance bank of the Neckar, 3 m. N.E. of of office on the support of the Whirs. Stuttgart. It is noted for its mineral albeit he sacrificed nothing of his springs, of which there are about policy. He only enjoyed his high thirty; it is thought that these were office for a few months, for he died on known to the Romans. There are Aug. S. 1827. C. had literary as well machinery manufactures, foundries, as political interests, and in 1797-8 he and brick works. Fruit and wine are printed many pieces in the Anti-produced in the district. The French

Canning, Elizabeth (1734-73), a were collected in 1823. He also has a canning, Elizabeth (1734-73), a were collected in 1823. He also has a criminal around whose case raged place in literary annals as founder, great excitement and controversy, into which Fielding entered with his Clear State of the Case of Elizabeth this periodical, so far as is known, he Canning. She told a mysterious tale of detention in the house of a 'Mother Wells.' Her story led to condemnation, but being afterwards proved to be false she herself was transported. She was the canning, George (1770-1827), statesman, was educated at Eton and spite of what has been said to the Christ Church and even in these early contrary. C. was singularly consistent.

then he

ing with Lord Castlereagh's conduct 1865-66, inventing the grappling of the war, and urging his dismissal. machinery for recovering the lost caused him to fight a duel with the cable of an unsuccessful first attempt.

Perceval came into power. C. took a chase rown, neumerord, and office long holiday abroad; but in 1816 he small towns are situated in the diswent to the India Office under Lord trick known as C. Chase, formerly a Liverpool. As a friend of Queen royal preserve, now a rich coalfield Caroline, he declined to take any part. Its principal industries are tool, boiler, in the proceedings against her in brick, and tile making. Its population of the proceedings are started from the process of the process

America. stayed at home, going again to the The fruit is a large, round, woody Foreign Office. On Liverpool's death, capsule, and this has earned for the

printed many pieces in the Anti-produced in the district. The French Jacobin, including the well-known under Moreau defeated the Austrians Needy Knife - Grinder. His poems under Archduke Charles in the neighbourhood in 1796. The town was in-corporated with Stuttgart in 1905. Pop. about 27,000.

Cannula, a small tube used in sur-gery. It is introduced into a tumour to withdraw

Cano, Alor painter, scul-

at Granada. He studied painting under Francisco Pacheco, the master of Velasquez, and sculpture under Juan Martinez Montañes. In 1637, in consequence of a duel, he was obliged toffee from Seville to Madrid, where he was befriended by Velasquez. Through the influence of his fellow artist, he was appointed court painter and royal architect. C. excelled in the three arts, and on account of the universality of his genius was called the Michael Angelo of Spain. There are work in the

and in the

tings, which chiefly deal with sacred subjects, are scattered in various cities, St. Peters-burg, Dresden, London, Berlin, and Munich.

Cano, Juan Sebastian del, a Spanjard, the first circumnavigator of the globe. He sailed under doubled the Cape of Good Hope, and landed near Seville in 1522. Charles V. gave him a pension and a globe inscribed with the motto Primus me circumdedisti. He died in 1526.

Canoe (from a Caribbean word through the Sp. canoa), a general term for a boat which has both ends pointed and which was formerly propelled by paddles only, but now sometimes by sails alone or in conjunction with paddles. The paddles are manipulated without mechanical contrivances like those used to hold oars in position. The paddler paddles first on one side of the boat, then on the other, sitting in the 'well,' a characteristic feature of the modern C., as distinct from the primitive boat, which was open from end to end; in the modern vessel all but the well is covered with a deck. The primitive C., used by the ancient Britons, the Eskimo, the N. American Indian, etc., was simply the hollowed trunk of a tree, or else a simple frame of wood covered with skins or bark. This C., called a 'dug-out,' made from trunks, was hollowed either by fire, stone implements, or shells. Many of these have been unearthed in the British Isles, and they are still used by the Africans. A famous example of this C. is exhibited in the New York National History Museum; it is

MacGregor and the construction of his renowned C., the Rob Roy, to-gether with the publication of his books, A Thousand Miles in the Rob Roy Canoe, and The Rob Roy on the Baltic, the Jordan, and the Zuyder Zee, 1850-66. The Rob Roy, designed for long journeys in the waters of the East, was built of oak with a cedar deck, was 14 ft. long and 26 in. wide: it had 7-foot paddles, and its sails were dyed blue on account of the glare of the sun; its weight, everything included, was 70 to 72 lbs. The Rob Roy became the type for the British C. W. Baden-Powell departed from this type by constructing the Nautilus, intended only for sailing, and there are now two types, the paddling C. and the sailing C. The sailing C. is about 15 ft. long, has a deck seat and tiller, its cockpit is small and its sail area correspondingly augmented, it contains air and watertight bulkheads, and is fitted generally with two sails. Baden-Powell of the

Club (founded 1866) lays down the rule that these Cs. may not weigh more Magellan, who was killed in the than 200 lbs. and that their sail area Philippines. C continued the voyage, may not exceed 75 sq. ft. These vessels can attain a speed of 40 m. a day in smooth water; racing Cs. can cover 8 m. an hour; these are 20 ft. long and 18 in. wide. Present-day crews sometimes sit on the side of the deck and not in the well; this device enables it to balance the wind pres-sure. The cruising C. is equipped with paddles and sails, the racing vessel has sails only. Modern British Cs. are usually made of oak, cedar, or pine; there have been Cs. made of paper, of tin, and of india-rubber. American Cs. are generally built of cedar, mahogany, or bass-wood, or on the lines of the Indian birch bark C., and made of painted canvas, bark, or compressed paper. The 'Canadian,' a type of the former, is constructed on a mould over which alternate strips of dark and light timber are laid while still moist from a steaming process they have undergone. The strips are grooved, bound, and glued together; this forms the outer skin; the inner skin is composed of broader strips placed crosswise.

Canon, an ecclesiastical dignitary. living under a regular rule of life but not definitely connected with any religious order. In both the Roman and Anglican churches the title is also used for those clergy who are connected with cathedral churches, and form the cathedral chapter. The 63 ft. long, and nearly 4 ft. wide. institution of bodies of clergy living Canoeing as a modern sport in England began with the lectures of John defined rule dates from an early date. In the early part of the 4th century parliamentary or the clergy at Vercelli were so united, Their binding force and St. Augustine of Hippo also followed this system in the following century. At the Lateran at Rome there was also an early foundation of the same kind. The practice became more general in the 8th century, when Chrodegang, Bishop of Metz (742-66), drew up a definite rule for Cs., founded largely on the Benedictine rule, but owing something to the traditional rule of the Lateran. In \$16-17 Louis le Débonnaire made this rule binding on all Cs. throughout the empire. In course of time the institution deteriorated, and a distinction between Cs. regular and Cs. secular was made. The former observed the rule, while the latter, frequently laywere mainly administrative aries. Various attempts were dignitaries. made at reform, notably by the Papal Synods of 1059 and 1063. These councils insisted on the original plan of the common life, and also urged the necessity of poverty, for canonries often considered merely as lucrative sinecures. A new rule. founded chiefly on the writings of St. Augustine, was now made, and those observing it were known as Augustinian Cs. There were over 200 houses of Augustinian Cs. in England at the Reformation. Since that date few attempts have been made to improve the system of Cs. regular. The chief orders of the kind in the Roman Church are those of the Lateran and the Premonstratensians. Many! foundations were entirely abolished at the Reformation.

Canon (from Gk. καιών, 'a measuring rod') was applied in early times to various rules of faith. By the 4th century the word had come into use to describe the rules of faith and practice put forward by councils of the Church. Thus there are the Cs. of Nicæa in AD. 325, and the Cs. of all the councils size that of all the councils since that date. The term also describes the list of saints honoured by the Church, and also the central portion of the liturgy, including the consecration of the sacred elements. For an account of Cs. in general see Canon Law.

Canons of the Church of England. A body of 141 Cs. or ecclesiastical constitutions drawn up by the Convocation of Canterbury in 1604, and approved by the Convocation of York, being finally sanctioned by the king. They were drawn up as a result of the Hampton Court Conference, to the vocation (q.r.) remained sitting after vocation (q.r.) remained sitting after the parliament had ceased to sit, and. Taffer water in a 'young' land. Caffer revising the 1604 Cs., published Colorado, U.S.A., situated 190 m. from seventeen more which never received. Denver on R. Arkansas, It has rich

royal sanction. Their binding force has, in consequence, been much questioned, and in consequence of their unpleasantly aggressive character, it is generally discredited. Except for those parts which have been superseded by later regulations of equal or greater authority, such as the rubrics of the Book of Common Prayer, 1661, the 1604 Cs. are still binding on the clergy, who at their institution to a benefice promise canonical obedience to their bishop.

Canons, Book of, in Scottish ecclesiastical law, a body of constitutions for the regulation of the Church in Scotland prepared by the bishops of that country and confirmed by letters patent under the Great Seal in 1635. after they had been revised by Laud. In the next year they were published at Aberdeen, and caused much discontent throughout the country, on account of the stringency of their regulations. The king's supremacy in matters ecclesiastical was strongly

emphasised.

Canon (Gk. κανών, a straight bar), in music, a particular form of composition, based on rule and written in strict imitation. The introductory theme or melody is taken up and repeated note by note in succession, and at set intervals, by the other part or parts. This kind of composition was introduced about the 12th century. and, with the fugue, is the most difficult study in the art of musical

composition.

Cañon, a Spanish word, but sometimes spelt Canyon, meaning 'a gorge, and used originally when speaking of the very deep and narrow valleys or gorges which have been cut by the rivers of Colorado and the western side of N. America. In Colorado the Grand C. is a most perfect and beautiful example of this natural formation of the earth's surface. The river here has carved its way through solid rock, in parts to the depth of 6000 ft. and not a mile in width. The walls are of sandstone and limestone with varying colours, quite bare of vegetation, and also cut into buttresses and terraces by the action of the atmosphere. There are other causes for these deep cuttings besides the work done by the stream itself: one is the continual uplifting process which maintains the rapid flow of the river. and the other the dry climate which keeps the rocky walls from being crumbled away by frost and springs. At Niagara there is also a fine gorge conclusions of which they were de- At Niagara there is also a fine gorge signed to give effect. In 1640, Con- below the falls, due to erosion by the

coal mines, and there are large quantities of copper, iron, petroleum, and limestone. The zinc-lead smelting works are the largest in the world. It is an important health resort owing to its hot mineral springs and mild

climate. Pop. 4000. (Lat. Canoness canonica: Kanonissin). In the 8th century, chapters of Cs. were instituted throughout the Frankish empire, in imitation of the chapters of canons. These consisted of associations of women, generally of high birth, under a somewhat lax rule, bound by the vows of chastity and obedience, but not by that of poverty. They had a common table and dormitory, and were bound to the recitation of the Breviary, but they were not cloistered. Generally, they were engaged in education and needlework teaching the embroidery of vestments and the transcription of religious books. As in the case of the canons, a distinction was soon drawn between regular and secular Cs., the latter being mere feudal princesses. At the Reformation many of these institutions became Protestant, and remained almost intact, with slightly altered rule, surviving to the present day

Canonica, Luigi (1762-1844), an tect. He designed the Italian architect. arena or amphitheatre in Milan. which was begun in 1805 by order of Napoleon, who hoped to propitiate his Milanese subjects by embellishing their capital. He executed many public and private buildings at Milan. the chief being the Casa Canonica, the two theatres, Ré and Carcano, and the interior of the Palazzo Orsini.

Canonical Hours, certain hours of the day and night appointed by the Roman Catholic Church for the reciting or chanting of the different parts of the divine offices. They are not now strictly adhered to as a general rule, but many of the monastic orders continue to observe them regularly. The hours are called Prime at 6 a.m.; Terce, 9 a.m.; Sext at noon; None from 2 to 3 p.m.; Vespers about 4 p.m.; Compline at 7 p.m.; Matins and Lauds at midnight or daybreak.

Canonicals, a term used to describe the official dress of the clergy.

VESTMENTS.

Canonisation, a solemn declaration by which the pope publicly proclaims a servant of God to be numbered among the saints honoured by the whole Roman Church. In the early ages there was no formal act of C., as it was only in their own locality that martyrs were venerated, and so long as this was the case, little difficulty was likely to arise. The first traces of a judicial procedure appear in Africa, to ac but this was demanded chiefly by the etc.

peculiar position of the church there. During the early middle ages, we find that it rests with each bishop to decide what saint shall be honoured in his diocese, and on what day. However, much carelessness crept in, and several scandals arose from the 7th to the 10th century, men of evil life being inscribed among the saints. The policy of centralisation also tended to bring the act of C. under the papal power. The earliest known case of C. by the pope is that of Ulric of Augsburg by John XV. in 993. At the end of the 12th century, by decrees of Alexander III. (1170) and Innocent III. (1200), the right was exclusively reserved to the Roman Court. rule was made more stringent by Urban VIII. in two constitutions (1625 and 1634), and the procedure of the process was then laid down. With slight modifications it is in force at the present day. It was strictly forbidden publicly to venerate in any fashion any person not papally canonised. Two exceptions were made, those who had received immemorial cultus, and those whose cultus had been sanc-

procedure of formal C. is as follows: Fifty years must elapse after the death of the candidate. A court is then instituted by the ordinary of the district where the claim is made, and material is gathered on which the case may be judged. The materials are then sent on to the Congregation of Rites at Rome, and after a lapse of ten years, the case is introduced. The claimant may now be called Venerable. After proof of two miracles per-formed at the candidate's interces-sion, and also that the candidate possessed Christian virtues to a heroic degree, his *Beatification* (q.v.) is performed. After the proof of two more miracles since beatification, the pope then proceeds to canonise the Beatus. assign him a feast day, mass, etc., and propose him for universal veneration.

Canon Law, embodied in canons or regulations, forms the body of law by which the government of the church is carried on by ecclesiastics. These canons are enacted by general councils or provincial synods, and are often enforced by the civil power. which ratifies them and makes them legally valid. The body of Eastern C. L. is easy of access and small in extent. It may be found in the Nomocanon of Photius of Constantinople (800), and the Synodikon of Bishop Beveridge (Oxford, 1672-82). The Western C. L. is extremely voluminous, and is in a confused state owing to accretions, interpolations, forgeries, etc. At the Council of Basle all

ages the study of C. L. was the prinof candidates for ecclesiastical offices.

balmed bodies. The jars were generally made of stone, and the lids were frequently shaped like four human heads, supposed to represent the four

genii, the sons of Osiris.

Canoppi, Antonio (1773-1832), an Italian artist. His father, who was a civil engineer, educated him for the same profession, but C. soon aban-doned science for art. He was first remanded as a fresco-painter by various remains of an amphitheatre and an old Italian nobles: later he became a scene-painter at the Fenice Theatre, antiquity have been found at C. and Venice, and afterwards at Mantua. During the Napoleonic war he was obliged to seek refuge in Germany, where he was potentially better the prov. of Canossa, a vil. in the prov. of where he was befriended by the Russian ambassador. Prince Razu- Reggio. Noted for its castle, now a movsky, at whose proposal C. pro-ruin, where the Emperor Henry IV. ceeded to Russia in 1807. In Moscow humiliated himself before Pope he decorated the hall of the senate Gregory VII. in 1077. and other public buildings, but his et en spécialité Théâtres Moder

village Aboukir.

British battleship, launched in 1898, and of 12,950 tons burthen. The name was first used in the navy in 1798.

century.

previous collections were gathered canopy (Gk. κωνωπίτον, Lat. canotogether as the Corpus Juris Canonici, pium). The word was used by Herodobyt this addition must have be seemed. but this edition must now be supple- tus (book ii.) in speaking of the nets mented by many papal decrees, the with which the Nile fishermen pro-canons of later councils, etc. It tected themselves from the insects. is in force throughout the Roman Hence it is used for any covering, but Catholic Church. During the middle in particular for such as is projected at a height over a bed, or throne, or cipal and most lucrative occupation over a conveyance in state proces-In architecture the word desions. Canopic Vases, called after the notes the projection over an altar or anct.tn. of Canopus, used by Egyptian tomb. a feature of the decorative priests to hold the viscera of em- period in Gothic architecture. It is also used of a moulding overhanging a door, porch, or window.

Canosa di Puglia, a tn. of Southern Italy, in the prov. of Bari, 13 m. S.W. of Barletta. It occupies the site of the ancient Apulian city Canusium. town contains the cathedral of San Sabino (built 1101), which holds the tomb of Bohemond I.; a ruined castle. built by Charles I. of Naples, and the

Canossa, a vil. in the prov. of Reggio nell' Emilia, Italy, 14 m. from Reggio. Noted for its castle, now a

Canova, Antonio (1757-1822), an of 1812. In 1811 he went to St. Possagno, in the prov. of Treviso. He Petersburg, where he remained till came of a family of stone-cutters, but his death. At the Imperial Theatre his talent early attracted attention. he executed a number of architec- and at the age of fourteen he entered tural scenes, including those for the the atelier of the sculptor Torretti, operas of the Zauberflöte and Semi- through the help of his patron, Gioramis, which excited the highest ad- vanni Falieri, a Venetian senator. miration. In his smaller compositions | C. accompanied his master to Venice, chose architectural views for his and, after Torretti's death, studied subject. Author of Opinion d'Antoine under his nephew Ferrari and at the Canoppi sur l'Architecture en aénéral Venetian Academy. At the age of

C. executed statutes, and Eurydice, and at finished his Théâtres Moder

Canopus, or

Canopus, or

of he had finished his

of Expt. situated about 14 m. E. of famous 'Dædalus and Icarus,' now

Alexandria, on western mouth of the in the Venetian Academy. In 1779,

Nile. called after the city the Canopic through the influence of his friend mouth. C. was the pleasure resort of Falieri, C. was awarded a pension the ancient Alexandrians. Ruins of by the Venetian government. In the famous temple of Scrapis were 1780 he went to Rome to study, and, everyated in 1802 near the modern finding little to attract him in the excavated in 1893 near the modern finding little to attract him in the conventionality of modern art, he Canopus, the name of a first-class, found his inspiration in classic sculp-He exhibited in 1782, and won liste fame. Before long, he ture. immediate fame. was acknowledged by artists of all and was associated with the engage nationalities as the first sculptor of ment off San Domingo, 1806, and the his day. C. was three times summoned to Paris by Napoleon. He carved the well-known bust of Napo-(leon in the Pitti Palace, and also Pauline Borghese as a reclining Venus. extremely remote, and of enormous and the Empress Maria Louisa as luminosity. Proper motion 2" per Concordia. C. also executed many commissions for the pope, on whose

account he suffered exile during the revolution of 1798-1800. In 1816 he was created Marquis of Ischia, and his name was inscribed in the Golden Book of the Capitol. He died at Venice, and was buried in the church he himself built at his birthplace. His famous 'Cupid and Psyche' is in the Louvre. Among his other well-known pieces are 'Hercules throwing Lichas into the Sea,' 'Perseus,' 'Venus and 'Hebe pouring Nectar, and the Centaur,' 'Mars and Venus.' Consult his Life, written by Quatremère de Quincy, Paris. 1834; by Cicognara, Venice, Paris, 1834; by Cicognara, Ve 1823; and by Rosini, Pisa, 1823.

Canovas del Castillo, Antonio (1828-97), a Spanish statesman and historian, born in Malaga. He became a member of the Cortes in 1854, was nade minister of the interior from 1860-64, was premier from 1875-81, and also held this office at intervals up to 1897. He was premier altogether six times. C. was a member of the Spanish Academy from 1867 till his death. During his member-ship and after the year 1890 he published many works. He edited and directed the publication of *Historia General de España*. In politics he was the leader of the Conservatives. He was assassinated by an anarchist

at Santa Aguada. Canrobert, François Certain (1809-95), a marshal of France. He was born at St. Céré in department Lot. born at St. Cere in department Lot. He first became noted through his valour, displayed in the Algerian wars of 1835 and 1841-51. He also rendered Louis Napoleon great service in his coup d'étal of 1851. When the Crimean War broke out he was given command of the first division of the Pracade army but on the death of French army, but on the death of Marshai St. Arnaud he was made commander-in-chief. Although twice wounded he completed the lines of investment at Sebastopol. He resigned his command in May 1855 through a disagreement with Lord He fought at Magenta and Solferino in the Italian wars in 1859, and in the Franco-German War, 1870. He was besieged at Metz, but had to surrender, and was thereupon imprisoned in Germany.

Canso: 1. A cape in Nova Scotia, on the N.E. extremity of the mainland, and on the S. side of Cheda-bucto Bay. 2. A strait, 17 m. long, between Nova Scotia and Cape

Breton Island.

Cant. a term used in architecture, and denoting the corner of a square cut off octagonally. In building a C. brick is one cut on the slant. It is also applied to a ship's timber, forward or aft, lying obliquely to the keel.

Cant. Andrew (1590-1663), a Scot-In 1816 he tish preacher and leader of the Covenanters. He became minister of Pit-sligo in Aberdeenshire in 1633; or Newbattle, Midlothian, in 1638; and of Aberdeen in 1640. In July 1638 he was made a commissioner for the purpose of converting people to Presbyterianism, and in the same year he took an active part in the celebrated assembly which was held at Glasgow.

Cantabile, or Cantilena, terms used in music to express great smoothness in manner of performance. Often translated as 'to be played in a singing manner.' Its opposite might be said to be the term 'maestoso.'

Cantabri, the name of an anct. race of mountaineers, living in the N. of Spain to the S. of the Bay of Biscay, which was called after them, Oceanus Cantabricus. They were of Iberian origin, and are now represented by their descendants, the Basques of the Pyrenees. The Cantabrian war which they waged with Rome lasted for six years (25-19 B.c.), and was finally concluded by Agrippa. Roman garrisons were stationed in their country, but they never gave up country, but they their independence.

Cantabrian Mountains, a range of mts. on the W. of the Pyrenecs, and stretching for 300 m. along the N. of Spain.

Cantacuzenus, a Greek family of royal birth. 1. Johannes C. (c. 1292c. 1380), a Byzantine soldier and ĦΑ

ш., 'dian and regent to his son, Johannes V., then a boy of nine. C. was suspected by the queen-mother, fled from Constantinople, and proclaimed himself emperor. After a civil war lasting six years, peace was made; he was de-clared joint emperor, 1347, and his daughter married to the young In 1354 C. was forced to Johannes. In 1354 C. was forced to abdicate. He retired to a monastery, where he wrote a history of his times from 1320 to 1357, and a defence of Christianity. 2. Matthias (d. 1383), his son, waged war for two years, after his father's retirement, against Johannes V., but was unable to make himself emperor. 3. Manuel (d. 1380), the brother of Matthias, and governor of Peloponnesus.

Cantal, a central dept. of France, in the southern part of the old prov. of Auvergne. It has an area of 2217 The region is occupied by an extinct volcanic mass, the highest peaks being Plomb de Cantal (6095 ft.) and Puy Mary (5850 ft.). Cattle are bred, and part of the country makes good arable land. Bye, potatoes, and chestnuts are the chief products. The only two rivers of any importthe are the Truyère and Dordogne. Capital, Aurillac. Pop.

(1901) 230,511.

Cantarini, Simone (1612-48), an Italian painter, called Pesarese, or Simone da Pesaro, born at Orpezza, near Pesaro. He was first a disciple of Pandolfi and Claudio Ridolfi, and afterwards of Guido Reni, whose style approached very nearly. suffered from an arrogant and jealous suffered from an arrogant and jealous disposition, and, leaving Guido, spent some years in Rome studying the work of Raphael. On his return to Bologna, he started a school, but with little success. He painted the portrait of the Duke of Mantua, but was mortified at the result, and died, possibly of poisoning, at Verona. C. was a good colourist, but his work lacked character and originality. He dealt chieffy with religious subtests. dealt chiefly with religious subjects; his best known paintings are: portrait of Guido in Pesaro; t Assumption' in the Bologna Gallery; 'St. Thomas placing his fingers in the side of Christ 'at Naples; and 'Joseph and Potiphar's Wife 'in the Dresden Gallery.

Cantata (Lat. cantare, to sing). In music the term is applied to certain forms of composition for solo voices and chorus, with instrumental accompaniments. It may be sacred or aracter. In the former secular in character. case it resembles an oratorio, but is much shorter: in the latter it may be compared to an opera, but it has no stage accessories. Originally, a C. was a musical theme sung by one person

to a single instrument.

Canteen, a refreshment house attached to a barrack. In the British army, men are only supplied with meat and bread, and have to buy their other necessaries at the C. The men living together in a room form a mess, which opens up an account with the C. A mess is only allowed to spend a certain fixed amount per week, and anything else the men require they have to pay for personally. The accounts of the mess are kept by the non-commissioned officer in charge of the men. Cs. were once kept by civilians, but since 1857 they have been under the control of the War Office, and are a recognised army institution. They are managed by a small committee of officers, and the goods are sold at practically cost price, any profit being spent for the benefit of the corps. A C. consists of a beer shop, a grocery shop, and a coffee bar. The last-named supplies all kinds of non-alcoholic drinks. In America the sale of intoxicants is prohibited in Cs. In France, the C. is a sort of club room used by the whole regiment for social purposes.

Cantelan, a tn., prov. Mindanao, Philippine Is., 47 m. S.E. of Surigao.

Pop. 7500.

Cantelupe, Thomas de (c. 1218-82), Bishop of Hereford, nephew of Walter de C. He studied at Oxford, Paris, and Orleans, and became chancellor of the Oxford University (1262-63), and lectured in theology at Paris, and at Oxford. He was appointed Lord Chancellor of England (1265), and held many rich livings, and was con-secrated Bishop of Hereford in 1275. He became involved in a dispute with Archbishop Peckham in the Council of Reading (1279), who excommunicated him in 1281. C. appealed to Rome, and on his way to Italy died at Orvieto. He was buried in his own cathedral, and was popularly regarded as a saint, owing to the marvellous miracles that were worked at his tomb. In 1320 Pope John XXII. canonised him as St. Thomas of Hereford.

Cantelupe, Walter de (d. 1266), was consecrated Bishop of Worcester at Viterbo in 1237. He held several rich rectories in plurality, and strongly resisted the interference of papacy in He defended pluralities England. against Otho (1237), opposed the papal demand of a tenth for King Henry III. (1252), and the further encroachments on English liberty made by Rome in 1251 and 1255. He supported the barons in 1264-65, and was summoned to Rome, but died before leaving England.

Cantemir, Antiochus Dimitrievitch (1709-44), a Russian poet, also satirist and diplomatist, born at Constantinople. He was appointed as Russian ambassador in London in 1730, and in Paris in 1738. His poems were mostly in a satirical vein, and he transmostly in a saturcar vein, and neuralistic into Russian Bolleau's Salires and Montesquieu's Lettres Persanes, also many classical works. It may be said that C. introduced the pseudoclassical spirit and ideals in Russian literature. Abbé Guasco translated C.'s satires and poems into French in 1750. A new edition of his works with brought biography was Stoiunin in 1867 in 2 vols.

Cantemir (or Kantemir), Demetrius (1673-1723), the most celebrated of the noble family of Moldavia. He was elected Prince of Moldavia in 1710, owing to the fact that war with Russia seemed imminent. C. obtained an alliance with Peter the Great in the following year, with a promise of help against the Turks. Peter was defeated in his campaign to the Pruth, and C. was obliged to take refuge in the Russian capitol. He was one of the founders of the St. Petersburg Academy, and wrote extensively in Latin, Greek, Roumanian, and Turkish. His chief works are: Historia | interest.

Romano-Moldo-Vlahilor.

Canterbury, a parl. and co. bor. of crowns the sovereign in Westminster England in the co. of Kent, on the Abbey. C. has a great 'cricket week' in the summer; its chief trade is in is a cathedral city, the see of the primate, and the ecclesiastical metropolis of all England. C. occupies the site of the Roman Durovernum. was an important fortress and military station, being situated on the high-way to London from Dover. To the way to London from Dover. To the Saxons it was known as Cantwara-byrig, town of the men of Kent, and was the capital of that kingdom. The see was founded about 597, when St. Augustine became Archbishop of Augustine Decame Architistante Canterbury, and from this centre Christianity spread through England. Christianty spread through engianu. The church, said to have been consecrated by St. Augustine, was destroyed by fire in 1067; the restored church, built by Archbishop Lanfranc, was the scene of the murder of Thomas à Becket, 1170. The slab of stone on which he stood at the time is still chown in the N transent. adis still shown in the N. transept, adjoining the Deans' Chapel. Relics of the martyred bodies of saints— Ene martyred bodies of saints—Blasius, Dunstan, Wilfrid, and Alfege—were brought to the church, and, like the shrine of Becket, attracted numerous pilgrims, whose offerings went towards the rebuilding of the church. The chief artificer during the 12th century was a Frenchman, William de Sens. The present nave and transept date from about 1400, and the Bell Harry tower from 1495. The cathedral is in the form of a double cross, with a central and two western towers. The total length is 522 ft., the eastern transept measur-ing 154 ft. Various styles of Gothic architecture are present, the pre-dominant styles being the Transition-Norman and the Perpendicular. There is a spacious crypt, cloisters, fine chapter-house, and two libraries. The King's School, founded by Henry VIII. in 1541, is attached to the cathedral. There are many ancient churches in C. the mort actached to the cathedral. cathedral. There are many ancients churches in C., the most notable being St. Martin's, part of which is built of Roman brick and tile of the 6th century; in its font St. Augustine is supposed to have baptised King Ethelbert; and St. Dunstan's, containing the burial-vault of the Roper family with the head of Sig Thonns. family, with the head of Sir Thomas More. C. has the ruins of a Norman keep, a guildhall (1439; rebuilt 1697), and a hospital for poor brethren, founded by Archbishop Lanfranc. The Checquers Inn, immortalised in of the dist. on the wearm of the the Canterbury Tales, and an ancient Mekong. 43 m. from its mouth. artificial mound, Dane John, possibly Canticles (Lat. canticulum, diminua corruption of Donjon, are of special tive of canticum, a little song), a book

The most famous archde orlu et Defectione Imperii Turcioi bishops have been, St. Augustine, St. (trans. into English by Tindal in Dunstan, Lanfranc, Anselm, Becket, 1756); Descriptio Moldaria; Cronica-Cranmer, and Laud. The Archbishop of C. is the first peer of the realm, and

Canterbury, a provincial dist. in the centre of S. Island, New Zealand. It covers an area of 14,040 sq. m., 3900 sq. m. of which form the C. Plains sloping from the mountains to the coast. The wheat growing and sheep rearing for which this part is noted are all carried on in this district. It is from here that the celebrated C. lamb and mutton of the English market comes. Dairy farming and market comes. Dairy farming and cheese making, also cocksfoot grass seeding, are the principal industries of Banks Peninsula, a volcanic region with rich soil. The capital is Christ-church, and the chief ports are Lyttelton in the N. and Timaru in the

S. Pop. 160,000.

Canterbury Bells, see Campanula. Cantharidæ, or Meloidæ, a family of coleopterous insects in the division Heteromera, known popularly as blister-beetles or oil-beetles. The species, of which about 1500 are classified, are subdivided into winged Cs. and wingless Meloides, and many of them are remarkable for their power of raising blisters when in contact with the skin of other animals. Cantharis (or Lytta) resicatoria, the Spanish fly, occurs in Spain, France, and Italy, and has this property. It is about three-quarters of an inch long, bright green in general colour, with legs and antennæ bluish-black. When touched they feign death and emit a penetrating odour. The larvæ feed on the roots of plants, but those of the Silaris humeralis feed on the eggs of a bee, while the young of Epicaula vittata live on the eggs of a locust. The drug called cantharides is prepared from the dried bodies of C. resicatoria, and is used on account of its blistering properties.

Cantharus, the typical genus of a section of Sparida, or sea-breams, is to be found in the Mediterranean, the Atlantic, and off the coasts of Africa and India. The species lack molar and vomerine teeth, are carnivorous and edible. C. lineatus is known both as the black sea-bream and as old-

fe. Cantho: 1. A dist., Lower Cochin ina, or 19 830 China, or sq. m. 1 140,000, Cap. of the dist. on the w. arm of the Mekong. 43 m. from its mouth.

the Vulgate ' Canticum Canticorum of the original Hebrew title. The book is a short crotic lyric on the subject of chaste love, arranged in dramatic form in a dialogue, as is apparent from changes of number and gender in the original. Its interpretation, since it seems to be considered that its place in the scriptural canon demands some secondary significance, is still disputed. It was first explained by the rabbis as an allegory of God and his people, and as such was admitted to the canon by the Massoretes. The early Christian theologians, such as Origen, made it refer to Christ and his Church. This view is still accepted in some quarters. Other symbolic interpretations have been brought forward, but it appears improbable that anything more than the literal meaning is really to be found in the book. There are two variants of this idea: the dramatic, held by Delitzsch and Ewald, which considers that Solomon, the Shulamite maiden, and, according to Ewald, the shepherd are represented; and the lyrical, held by Karl Budde, which considers the book as a collection of peasant nuptial lyrics. In any case C. must be regarded as an exquisite example of Hebrew poetry, full of feeling for nature, and passionate description of pure and faithful love. The language of many portions is of great beauty. The date and author of the book are hypothetical, but inof the book are hypothetical, but in-ternal evidence tends to place it not earlier than the 3rd century B.c. See Driver's Introduction to the Literature of the Old Testament, 1891; Cheyne's article in the Encyclopadia Biblica; J. W. Rothstein, in Hastings' Dic-tionary of the Bible; and the works of Herder, Umbreit, Magnus, Hitzig, etc. Cantilever, originally a term ap-

plied in architecture to a structure supported only by one fixed base, beyond which it projects horizontally, said to have two C. arms. platforms at railway stations. Per-the examination hall, and the new haps the most important use of the C. principle is its application to bridges. The idea has been applied to quarter. The new town, more comparing to the bridging of spaces too wide to be suburbs. crossed by a single plank from the Tothe \$ earliest times, and, in its simplest along form, is still employed by many were formerly the European quarter, eastern nations. In these primitive This is now located on the island of

of the Hebrew Scriptures, commonly C. bridges, two planks, firmly fixed known in English as 'The Song of in the banks, project over the stream, Solomon,' or 'The Song of Songs,' and are connected by an independent this latter being a translation through trues overlapping the end of each. truss overlapping the end of each. The principle has recently been greatly developed, and applied in cases where girders or suspension bridges are im-practicable. The modern practice is to erect in the bed of the river, at a convenient and equal distance from each bank, a pier supporting two Carms, one of which extends to the shore and the other over the stream. These outer ends are connected by another truss. The first modern bridge erected on these lines was one bridge erected on these lines was one over the Niagara R., designed by Charles C. Schneider in 1882; and another famous example is the Forth Bridge, Scotland, with its two great C. spans of 1760 ft. The Cs. of the Lansdowne bridge over the Indus at Sukkur are supported by the bank itself. The bending stress of a C. caves it to bend with a convex curve. causes it to bend with a convex curve upwards, in the opposite direction to the curve of a bridge supported at both ends.

Canto Fermo, see PLAIN SONG. Canton, cap. city of the prov. of Kwang-tung, China on the N. side Kwang-Gung, China on the N. side of the Shu-kiang, Canton, or Pearl R., 70 m. from its mouth and 90 m. N.W. of Hong-Kong. The city stretches from a rich alluvial plain on the S., formed by the delta of the river, to a ravine at the foot of a range of hills to the N. and N.E. The island of He-nan lies in the river opposite to the city. The river affords safe and plentiful anchorage for small vessels, but large ones have to unload at Whampoa. A large number of the population of C. live in boats on the river, the in-habitants, known as Tankia, rearing a considerable amount of poultry on board. The waterways of the Pe-kiang and Si-kiang rivers, together with canals, afford communication between C. and the interior of the province. The city is enclosed by a wall of brick, based on red sandstone, 25 to 40 ft. high, 20 ft. thick, and 6 or 7 m. in circumference. Within it is e.g. a beam supported at the centre is an esplanade; the wall is pierced by Cs. are twelve gates. There are also two said to have two C. arms. Cs. are twerve gates. Incre are also the largely used as supports for balconies and projecting portions of buildings, having four gates, divides the city where they serve a double purpose of into the N. or old town and the S. or use and ornament; for sidewelks connew town. The former is much the structed outside the trusses of a larger, but very scattered and stragbridge; and for the roofing of island; gling. It contains official residences, but the varying at relivence of relivence that the property of the contains of the property of the pro

Sha-mien. and suburbs are very narrow and crooked, each closed by gates, and, in the commercial district, set apart for one particular trade. There is no The houses of the wheeled traffic. poor are of mud; those of the better classes of brick or stone, with flat roofs. Riverside dwellings are built on piles. Among the chief buildings are two pagodas, one a 10th-century Mohammedan mosque (the Pagoda), and the other a 6th-century octagonal nine-storied building; about

on islands in the river. The trade. which has suffered through the openwhich has suhered through the open-ing of other Chinese ports, is still large. Tea, silk, sugar, cassia, china-ware, matting, bristles, paim-leaf fans, canes, and preserves are ex-ported; and textiles, metal goods, and food-stuffs imported. There are manufactures of silk, fireworks, hard-ware, and woodwork. The climate is healthy. C. was visited in 1684 by the reaty C. was visited in 103 by the East India Company, whose monopoly only ceased in 1834. The Nanking Treaty of 1842 made it one of the five ports open to foreign trade. It was bombarded by the French and English forces in 1857, and held by them

for four years. Pop. about 1,000,000.
Canton: 1. A city in Ohio, U.S.A.,
52 m. from Cleveland; a great number of different articles are manufactured there. Potter's clay, coal. and limestone are exported. It was the home of President McKinley. Pop. 50,000. 2. A tn., Illinois, U.S.A., 24 m. from Peoria, in a coul district. There are large tobacco factories and flour mills, and agricultural implements are made there. Pop. 6600. 3. County seat of St. Lawrence, in New York state, U.S.A., 18 m. from Ogdenburg on the R. La Grasse. St. Lawrence University is situated here. Butter and cheese are made, and small boats and launches are built. Pop. 6500.

Canton: A geographical area in Switzerland, having its own laws and a local government which looks after all domestic affairs, such as taxation and control of public money. Foreign policy, control of the army, etc., are left to the general government, whose headquarters are at Bern. France a term meaning a subdivision of the arrondissement under a justice

of the peace. Canton, John (1718-72), an English

The streets of both city | Society about 1850. Among his other work may be mentioned the invention of the pith-ball electrometer, the verification of Franklin's identification of lightning and electric fluid. and his demonstration of the compressibility of water, for which he received the gold medal of the Royal Society. He wrote several treatises in the Philosophical Transactions.

Canton, William (b. 1845), English writer and editor, educated in France. He was for long sub-editor and leader writer for the Glasgow Herald; subeditor of the Contemporary Review; manager of Isbister and Co., Ltd., 1891-99. Among his publications are:
A Lost Epic and other Poems, 1887; A Lost Epic and other Foems, 1887; The Invisible Playmate and W. V., Her Book, 1897; Children's Sayings, 1900; The Story of the Bible Society, 1904; The Bible and the English People, 1911.

Cantoni, Simone (d. 1818), Italian architect, born at Maggio; studied at Rome, and spent most of his life at Milan, where he erected the Palazzo Serbelloni, the Palazzo Mellerio, and other fine mansions. He was also responsible for the rebuilding of the great council hall in the palace of the Duke of Genoa, which had been burnt down in 1770, and for several palaces in Como and Bergamo.

Cantonments, a military term applied to a temporary resting-place for troops. On active service, troops in C. are quartered actually in a town or village, and the term is also used when they are detached and quartered in several neighbouring towns. most common use of the word is in relation to military settlements in British India, where C. are equivalent to permanent barracks, situated at a short distance from a town, or to isolated military stations.

Canton River (Chinese Chukiang, ' pearl river'), an arm of the delta Si-kiang in the prov. of Kwang-tung, China. It is the lower portion of the Pe-kiang R. About 45 m. below Canton the river is called Boca Tigris, or Tiger's Mouth. The estuary of the river S. of Boca Tigris is called Outer Waters. The celebrated Bogue Forts, taken by the English in 1841 and 1856, guard the entrance to this part of the river.

Cantu, a tn. in Lombardy, Italy 5 m. S.S.E. of Como. It produces cereals and silk. Pop. 11,000.

Cantu, Cesare (1807-95), an Italian historian and novelist. He was born at Brivio near Milan, and for a little scientist, born at Stroud: spent most time was a professor of Italian of his life in London, part of the time literature and language at Como, as a school teacher. His researches in Milan, and Sondrio. He was thrown physics were mainly in the field of into prison between 1832-3 for reclectricity, for discoveries in which he was made a fellow of the Royal Austrian government in his book Ragionamenti sulla Storia Lombarda nel Secolo XVII. While in prison he wrote his historical novel Margherita Pusterla, published in 1838. His great work is his colossal Storia Universale (1836-42) in 35 vols., which brought him in £12,000 in royalties. It is of great value both from a view. His books for young people are Letture Giovanili and Il Galantuomo, which are greatly read. Among other works are Storia degli Italiani (1855-7), which is in 6 vols., and Italiani Illustri, Ritratti (1870-2). in 3 vois.

Canute the Great (d. 1036), the second King of Denmark of his name, and King of England. The son of Sweyn, King of Denmark, who, after conquering a great part of England, and driving Ethelred, the Saxon king, into exile in Normandy, died in 1014. C. succeeded to his English conquests, defeated Ethelred, who had returned, and overran the whole country with the exception of London, where Ethelred retired and died in 1016. Hisson, Edmund Ironsides, vigorously opposed C., but after being defeated at the battle of Assandun, consented to a division of the country, by which he took Wessex and C. Mercia and the N. In 1017 Edmund was mur-dered and C. became King of Eng-He banished the sons of Edmund, married Emma, the widow of Ethelred, and divided the kingdom into the earldoms of Mercia, North-umberland, Wessex, and E. Anglia. He gained the favour of his people by sending back many of his adventurers to Denmark, placing Saxons in power, and by his general prudent policy and piety, and was accompanied Saxon warriors on his expeditic

against Sweden and Norway. became King of Denmark in 1018, and of Norway in 1030. C. died at Shaftesbury, leaving three Sweyn, Harold, and Hardicanute. The story of his rebuke to his flattering courtiers comes from Henry of

Huntingdon.

Canvas, a heavy cloth, very strong, and made of jute, hemp, or flax. The strands or fibres are woven "

the same way as linen. All C. used for sailcloth is made from hemp and other fibres, required to the best and strongest kinds are made from flax, and generally in widths of 24 in. A piece, or bolt, is 40 yds. long. There are different kinds of C., varying according to weight. Artists' C. used for oil paintings is one of the finest kinds of C., and the sails of racing yachts are often cotton-duck.

Canvassing, a term used for soliciting votes at an election. It is also applied to the soliciting of trade or

business by commercial travellers. In order to gain votes it was a practice to use illegal methods whereby the number of votes could be increased. The illegal methods adopted were such as treating, undue influence, and aiding and abetting on the part of the canvassers, and it was to cope with these irregularities that a law was passed against 'Corrupt and Illegal

Practices. Canzone, a Provencal and Italian form of poetry used principally for love lyrics, though occasionally used for religious and other subjects. The earliest specimens from Provence date from the 12th century, and those of Italy from the 13th century. number of stanzas was generally five or six, but they varied sometimes, and the last stanza was more often than not shorter than the others. Provençal Cs. the same set of rhymes went through all the stanzas, but in the Italian a fresh set was introduced for each stanza. Dante, Petrarch, Tasso, and Leopardi all wrote this form of poetry. Drummond of Hawthornden wrote the best examples of English cauzone.

Canzonet (a diminutive of canzona), in music, applied to a short song in parts, and to musical settings of trifling verses.

Cao-bang: 1. A circular dist. in Tongking, covering an area of 3000 sq. m. The country is mountainous, and sulphate of tin, iron, and galena are found there. There are also fine forests. Pop. 70,000. 2. Capital of above circle, 72 m. from Langson. Rice, maize, sugar cano, and betelnut are grown there. Pop. 6000.

Caoutchouc, see INDIARUBBER.

the necessary discretion to be chargeable for one's crimes. In the law of contracts, e.g., lunatics and infants are, generall

entering into criminal law

absolutely incapable of committing a crime.

Capacity, the power of containing c C., the number of n a solid or closed

a body one quantity (raise the from 0 to 1.

Capaneus, a Greek hero who took part in the first expedition of the Seven against Thebes. While he was trying to scale the walls of Thebes he was struck by lightning by Zeus (Jupiter).

Cape, a term applied in geography .

to a projecting piece of land extend- Namaqualand, that is German S.W. ing beyond the rest of the coastline Africa, on the N.W., and on the N.E. into a sea or lake.

the

Ca land by the Gut of Canso, 1 m. broad. The greatest length of the island is 110 m., the greatest width 85 m., and the area 3120 sq. m. It is bisected by the waterway formed by the inlet of the Bras d'Or, on the E. coast, the lake into which it widons, and the St. Peter's Ship Canal, which joins this lake to the Gut of Canso. The Bras lake to the Gut of Canso. d'Or Lake is 50 m. long, 20 m. broad, and from 12 to 60 fathoms deep. It is surrounded by beautiful scenery, and renders practically the entire island accessible by water. The northern portion of the island is much more mountainous and rugged than the southern, and rises to an elevation of 1800 ft. at North Cape. The coast is deeply indented by numerous bays and harbours. The climate is milder than that of the mainland, but very moist. The harbours are open all the year round. A certain amount of grain is grown, there is considerable mineral wealth, coal and iron (in the Sydney) district), copper, marble, granite. limestone, slate, gypsum, and salt being mined and exported. Timbering and shipbuilding form an import-

towns are Sydney, Arichat, Port Hood, and Louisburg. C. B. was ceded to France in 1654 at the Peace of St. Germain, the French settled

and fortified Louisburg in 1712-13. The island was frequently taken and lost by Great Britain, but finally became British in 1763. After some changes of local government it became part of Nova Scotia in 1819.

Cape Coast Castle, a tn. on the W. coast of Africa in the colony of Gold Coast. Formerly the capital. Pop-30,000,

Cape Cod, L-shaped sandy peninsula of Massachusetts, U.S.A., 65 m. long and 1 to 10 m. broad. It is a favourite summer resort, and there numerous small villages settlements.

Cape Colony (officially the 'Prov. of the Cape of Good Hope'), the most southerly portion of Africa. The boundaries of the prov. are Bechyanaland Protectorate on the N., Great

Arrica, on the N.W., and on the N.E., and E. the Transvaal, Orange Free State, Basutoland, and Natal. The breadth of the colony may be measured by its diameters (N.E. to S.W. and N.W. to S.E.), which are respectively 750 and 800 m. long. The coastline from the mouth of the Umtamouna on the E. to the mouth of the Orange on the W. measures some 1300 m. The whole area is some 1300 m. The wnoice area. Walfish Bay on the 276,995 sq. m. Walfish Bay on the W. coast, which is surrounded by German territory, is also a part of the province.

Physical features .- The estuary of the Knysna provides the only good natural harbour of the province; the bar at its entrance is never less than 14 ft. deep. Skirting the coast west-ward, the traveller will pass the ward, the traveller will pass the mouths of many mountain torrents, broad stretches of forest, and the green slopes of the Viteniquas Mts. Further to the W. he will see Cape Agulhas and the Cape of Good Hope, which rises 840 ft. above sea-level. If the traveller doubles the Cape, he will find himself in Table Bay, above which towers the flat-topped, cloud-girt Table Mt. (3549 ft.). Cape Town, the capital of the province, extends along the coast and the lower slopes of the mountain, on the side of the peninsula opposite False Bay on the ant industry, and C. B. is the centre S. So far the shore has been fertile of the cod-fisheries. The island is a great tourist resort. The population often picturesque, but along the W. is mainly of Scott. The population often picturesque, but along the W. is is covered with white sand scent, and Roman scott, and Roman scott scot

Gaelie is still larg
are also some Fr
Micmae Indians. The island is divided into four counties; Richmond, Inverlegation, S. Victoria, and C. B. The chief portance. In C. C. the rise of the land towns are Sydney Aright Pari in towns are Sydney Aright Pari in towns are Sydney. in terraces up from the sea to the great plateau of South Africa is well

marked.

Occan currents .- The Agulhas current rushes south-westward from the S. and E. coasts so forcibly that a counter-current, running in a northeasterly direction, is set up. going towards Natal from Cape Town avail themselves of this back drift. At the southern extremity, where the Birkenhead went down in 1852, the warm Agulhas current meets the cold W. drift from the Antaretic. The current flowing northward along the western shores is really part of this W. drift, though its course is diverted.

Rivers.—Beginning on the E. coast, the Buffalo rises beyond King William's Town, which is on its bank. At its mouth lies E. London, the third port of the province. Port Alfred is situated at the mouth of the Kowie, which rises in the Zuurberg

Mts., and is noted for the beautiful! country through which it flows. The source of the Kei is in the Stormberg. Further S., the Great Salt R. enters the sea. It is formed by the flowing of the Kat, which rises in the Winter-berg, into the main stream, there called the Great Fish R. Rising in the Zuurberg, the latter, like the Sunday and the Groote, crosses the Great Karroo; it is remarkable alike for its swollen waters after rains, and for its tortuous course. At one time it makes a great circular sweep of 20 m., the two ends being less than 2 m. apart. The Sunday joins the Indian Ocean in Algoa Bay after watering a very fertile district. The Groote is the more important of the two streams, which are known after their junction as the Gamtoos. It takes its rise like the Gamka in the Nieuwyeld Range. The Gamka unites with the Olifants to form the Gouritz. which is fed by the tributary, Groote (125 m.), just before it pierces the coast range. The most westerly river of importance on the S. coast is the Breede, which rises in the Warm Bokkveld. Breaking through the mountains at Mitchell's Pass, it afterwards receives the streams from the celebrated Hex R. Pass. On its banks are the picturesque cities of Ceres and Worcester. Unlike most of the rivers, whose mouths are silted by sand bars, it is navigable for some 35 m. There are three rivers flowing Town, namely, the Berg and the Buffalo, each 125 m. long, and between them the Olifants, 150 m., which, rising in the Winterhoek Mts. and cleaving a passage between the Cedarberg and Olifants chains, maintains a fair depth throughout its lower course. The great waterits lower course. The great water-way of the Orange, which stretches almost from the Atlantic to the Ocean, forms a northern Indian boundary to the province. The Zak, Ongers, and Brak unite with the middle courses of this river, whilst the united Modder and Riet from the S.E. and the Barts from the N.E. both effect their junction with the Vaal, the greatest of the Orange offshoots, within the confines of the Colony. The inner mountain range is the main watershed. Unfortunately hardly any of the rivers are navigable for any distance. As they tear down the mountain sides, cutting deep ravines, they grow into splendid streams after heavy rainfall, but in the hot weather they shrink to the size of brooks or dry up altogether.

Lakes and cares.—Though th

20 m. in circumference. Situated in the barren north-western flats, this natural basin, like the rest, rapidly loses its waters in the dry season, so that the salt layers at the bottom may be reached. Near Knysna and elsewhere are shallow basins, called 'vleis,' which overflow into one another in time of flood. These pools vary in bulk according to humidity of the atmosphere.

Mountains and tablelands .-- For the most part the three mountain chains are very well defined and their configuration simple to grasp since they follow the coastlines. Within the coast plain, which rarely rises to 600 ft., the abrupt southern slopes of the coast range ascend to a plateau some 30 m. wide, known as the Little Karroo (Hottentot for 'arid'). The terraced formation is continued by the second chain of mountains, which give on to the Great Karroo, a table. land whose area is something like 28,000 sq. m. The main belt of heights, shutting in this plateau to the N., fringes the immense plain of S. Africa, a strip of which only lies in this province. Thus in spite of a perplexing nomenclature, the structure of the high lands is plain. Passing E. to W. the coastal chain is known successively as the Viteniquas, Langeberg, Zondereinde, Drakenstein, and Olifants mountains. The province E. of the Kei R. is very hilly, the southern portion being occupied by the Stormberg peaks and the northern the Stormoerg pears and the porthern by the flanks of the lofty Drakens-berg. The central range E to W. includes the Zuurberg, Winterhoek, Groote River, Groote Zwarteberg (greatest elevation 6989 ft.), and the Cedarberg Mts. Great gorges called 'kloofs' have been pierced in this chain by the rushing streams. The third mountain rampart, running 120 m. inland from the shores, is variously named the Nieuwyeld, Sneeuwberg (in which is Compass Berg, attaining the greatest altitude in the province, \$500 ft.), Zuurberg, and Stormberg ranges. The eastern coastis slanked by the Roggeveld and Komsberg mountains. tains which continue the Nieuwveld. It is true that the contours of the mountains are often imposing, yet these will far from compensate, in the traveller's estimation, for the monotony of the bare stretches of 'veld,' and for the deplorable de-ficiency in water and trees. The flowering shrubs and grasses have no sooner sprung up on the Bushman-land plateau (in the N.W.) than they are withered away by the hot suns, which undo the fertilising work of province can boast of no lakes, there the heavy rains. Cattle often find are many 'salt pans,' the largest good pasture by the 'vleis,' if the being Commissioner's Salt Pan, some soil is not too brackish, and water

alone is wanted to bring under good cultivation the many scattered deposits of rich earths. The vast, treeless tableland to the N., whose average altitude is 3000 ft., is broken only by the great Orange R. which

Cilinate.—The climate of the province is healthy—a truth that is amply demonstrated by the fact that the colonists from Northern Europe, who came ten generations ago, are still as vigorous as they were at the first settlements. As a rule the air is remarkably dry and clear. The mean annual temperature may be taken as less than 65°

range is very

variation on much as 27° F. The great drawback is the prevalence everywhere of dust, which is blown by every wind. nature of the climate mainly depends on two factors: the elevation of the land and the great expanse of ocean in the lower hemisphere. It is the cold currents of the latter which give to Cape Town so low a mean temperature as 63° F., the same as that of the Italian Riviera, which is 8° farther from the equator. The mountain chains exhaust the rains of the moisture-laden winds from the E. and Thus these winds fertilise in S.E. Thus these winds fertilise in plenty the coast-lands, but, as the more they advance into the interior the drier they get, most of the province is subject to frequent and severe drought. Along the W. coast, N. of the Olifants, rain does not fall for years together. A line from Walfish Bay to Port Elizabeth, on the S.E., roughly divides the prov. W. and E. into the areas of winter and summer into the areas of winter and summer. into the areas of winter and summer rainy seasons respectively. W. of 23° E., the mean annual rainfall is under 10 in. By the western coast and on the Little Karroo it varies from 10 to 20 in., but on the S. and S.E. coasts it is over 25 in., and in the Cape peninsula sometimes rises above 40 in. The violent thunder-showers, which usually follow the dry hot N. wind from the desert, are the one source of rainfall to the arid northern districts. Dec. to Jan. are the hottest months, and June and July the coldest. On the northern plateaux and on the Karroo the mean minimum temperature is 49° F., and the mean maximum 77°. Though the hot westerly winds make the daytime often oppressive, the nights are cool and refreshing. Frosts are fairly frequent in the winter, and whilst snow rarely falls on the coasts, it often caps the high mountains for months together.

Flora.—Along the coast the flora is rich. Of the 10,000 varieties of species, some 450 are found only in the province. Prickles and thorns are

common characteristics of the plants. There are over 400 genera of the bush heaths: the abundant rhenoster wood is not unlike heather. Aloes, 'everlasting flowers,' pod-bearing and the castor-oil plants are also indigenous. Among flowers the iris and arum lily are conspicuous, whilst the spurge plants, the elephant's foot, and the stapelia, or carrion, flower may be noted among plants structurally eccentric. Forests of trees rarely more than 30 ft. high cover some 550 sq, m. of the southern seaward slopes. The yellow wood (of the yew species), the silver tree, black iron wood, the melkout, and the heavy, hard stinkhout are indigenous, whilst oaks, which grow luxuriantly, pines, and poplars have been introduced with success by settlers. Though the native fruits, including gourds, water-melons, and hard pears, are rare, most of the varieties introduced from other countries grow quite well. In the spring the blossoms of the dwarf mimosas on the Karroo are splendid. A coarse yellow grass covers the tablelands of the interior.

Fauna.—The fauna is very varied. though lions and rhinoceroses have been expelled and the blaauwbok and quagga exterminated. Zebras, elands, antelopes, gnus, buffaloes, and ele-phants now require special protection. Not so the cheetahs and leopards, which, like other carnivora—the silver jackal, wild cats and dogs, aard-wolf and hyæna—are still fairly common. Springboks herd on the open veld, whilst other species of ungulata are the steinbok, the klipspringer, and the dassie rabbit. There are also baboons, otters, pangolins and other ant-eaters, mongooses, jerboas, and hares. Among reptiles may be mentioned puff adders and other snakes. lizards, and tortoises. There is a great variety of game bird, including the ostrich, the huge kori bustard. the quail, teal, snipe, widgeon, and many others. Eagles, falcons, owls, and aasvogels, besides flamingoes, pelicans, and cranes, are also found. Most of the birds belong to the Passeres order. Larks, weavers, and starlings—the English starling is the only naturalised European bird-are the commonest varieties. Of endemic insectivora, the 'golden mole' is notable for the splendid lustre of its yellow fur. Jumping shrews, taranyenow tur. Jumping shrews, taran-tula spiders, scorpions, toads and frogs, and the poisonous tsetse fly are also native to the Colony. The large baba and yellow fish occur in fresh water, whilst in the sea are found seals, sharks, whales, steenbrass, snock, and many edible species.

Geology.—The geological structure of the mountain ranges is fairly uni-

surfaces of the karroos and northern levied on most commodities after the plateaux. The three systems are revision of the protective tariffin 1906. known as the Cretaceous, Karroo, and

understood. Agriculture and allied industries. to promote th tracts of land.

water. Still, oats, wheat, barley, and rye yield good crops. The vegetable produce consists chiefly of potatoes, mangolds, peas, and beans. Most of the farmers live by sheep-rearing, but although in 1904 the number of sheep was registered as nearly 12,000,000 and the aggregate number of goats, cattle, horses, and asses as 9,000,000 odd, these figures show a slight decrease on those of 1891. The number of domesticated ostriches on the farms in 1904 was 357,000. Mules are bred on the veld. Statistics give the annual output of wine (and brandy) as 7,500,000 gallons, which testifies to the prosperity of the vine cultivation. Vines are grown chiefly for home consumption. tion. There is only a very limited demand for the Cape wines in Europe in spite of the fine flavour of the crapes. Rapid improvements in the transport service have made it worth while for fruit-growers to cultivate grapes, apricots, oranges, and peaches for foreign markets. The annual fruit harvest of runs each millions. 7,000,000 bushels of wheat are annually ground in the flour-mills, which are second only in importance to the diamond mines as a source of industrial wealth.

Mining.-The diamond mining is carried on in Kimberley, which yields more diamonds than all the other mines combined, Hopetown, Griqualand West and other places near the Orange R. It is worth £4,250,000 a year. There are a number of collieries in the Stormberg district, and copper, gold, tin, and salt are also found.

Trade.-75 per cent. of the imports come from British dominions, and

form, most of them consisting of huge, are the staple imports. In 1905 the masses of quartzose sandstones on value of the latter was only £20,000,913 granite bases. Whilst the granite as compared with £33,761,831 in 1903. when it occasionally crops out has The exports in 1905 were worth rounded contours, the formation of £33,812,210—more than double their the sandstone, as on Table Mt. is flat. value in 1902. In that year the intense The latter often covers the primitive depression in trade caused by the rock to a thickness of 1750 ft. The Boer War was still operative. Transit Stormberg chain alone presents traces of goods to and from the Transvaal of recent volcanic action. Ferruginous and other colonies considerably aurreddy sands and argillaceous clays, ments the commerce of the province. resting on blue slaty rock, form the An ad ralorem rate of 15 per cent. was

Posts and telegraphs. - Beside-Cape systems, whilst there are also a well-organised postal service, the pre-Cape rocks that are little province is connected with Europe by four distinct cable routes is in complete telegraphic communication with Artificial irrigation is badly needed all the S. African states, and has

m boundaries system under phone service

has been instituted in the towns. Railways.—The railways also are for the most part owned by the state. The first was built in 1859 from Cape Town to Wellington as the result of private enterprise, but in 1871 parliament began to construct railways at public expense. The Western, Midland, and Eastern are the three chief systems. Of the first system the main line runs from Cape Town through Kimberley, Vryburg, Mafeking, Bulu-wayo, and the Victoria Falls (1623 m.) on to the Belgian Congo frontier. Branch lines connect Cape Town with Johannesburg, Pretoria, Salisbury, and Beira (2037 m.). The terminus of the Midland system is Port Eliza-beth. The main line passes through Cradock and Naauwport to Norval's Pont, and thence is continued to Bloemfontein. Johannesburz, and Pretoria. The Midland and Western are connected by branch systems lines at De Aar. The Eastern system runs from East London to Springfontein (314 m.), which is a junction for the Bloemfontein railway. series of railways crosses the Colony, running E. and W. parallel to the coast.

Other communications.—The western route to the Cape is via Dover to Cape Town, the eastern is rid the Suez Canal and Natal. There are steamer connections also with Australia and India, and a line from Ham-

eighteen oxen dragging a load of some four tons.

Races and population.—Of the two almost all the exports are sent there. indigenous tribes, the Bushmen and The principal exports are diamonds, the Hottentots, the former have regold, wool, ostrich feathers, hides, treated before the settlers and have and copper, whilst textiles, food been much reduced in number, and stuffs, hardware and machinery, etc., the latter are now nearly all half-

breeds of Hottentot, Dutch, and Education.—There is a state system Kaffir blood. The Kaffirs come from of primary education, which, how-the Bantu negroid stock, their chief ever the Bantu negroid scock, their cines of the first state of the Crange, and the Fingoes, Tembus, and Amaxosa. The Griquas are half-castes of Dutch-Hottentot There are special day and industrial blood. A number of Malays, whose schools for the natives. The elebond of union is their Mohammedan religion, have settled round Cape religion, have settled round Town. The country is chiefly populated by Dutch (and German) farmers who speak 'taal,' a corrupt form of their own original tongue. The Boers are remarkable for their physique, their determined character, a garrison of the British army is and their ignorance of lears all towns English is commonl In 1904 the white pop. was the proportion of British t

and moreover, this percentage to be on the increase. However, in becam the S.W. corner of the r white pop. is actually the stronger. Only a ver

being about two to three. E

75 per cent. of the pop. is

portion of the people live any distance inland. Since early yeas there has been a steady stream of immigration. In 1903, after the war, the number of immigrants was phenomenal, namely 61,870, that is, 30,000 more than the emigrants. But in 1905 the outgoing figures (? than tho

Chief

is the only inland town of importance. The pop. of Cape Town, the capital, including the suburbs of Woodstock, Wy in 1 and

importance. In the western half of the province the towns with a pop. over 3500 are Worcester, Caledon,

Aliwal North (the largest on the Orange Samon's Town.

Bay. running at right angles are generally grouped round a central market place.

Religion.—The Dutch Reformed Church has a greater membership than any other. The Methodists, eight-ninths of whom belong to the coloured pop., outnumber the Angli-cans. The latter community has established a sublished at Cape 's Town and a

Town, for the other sects. represented.

good fortified against naval attacks, and capital.

are the per but the Cape fully armed. istration of tised. What at

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109.

of the Cape of Good Hope falls easily into two sections, with 1814—the year when it was finally recognised as an English colony-as the dividing line. Two Portuguese, Bartholomew Diaz (in 1486) and Vasco da Gama (1498), were the first explorers to round the stormy Cape. Though from that time onward Portuguese, Dutch, and English traders rarely went to the E. by the Cape route, the first definite step towards acquisition was taken by the Dutch E. India Company in 1652, when it established a fort at the foot of Table Bay, and made a small settlement, with the object of ensuring a fresh-water supply for their merchant vessels in their passage to the E. Indies. But the company was early induced to cultivate the fertile earth and to found a colony as well as a water station.

many protests against its lealous monopolies— recognition which proved quite
France seize in the little was a seize with appealed to England for help. The effect of this at the Cape was that an English force held the Colony in trust for the mother country till the Peace of Amiens (1810), when it was given back. After about four under state years' rule tration, this time, instead of the company's, an English force (about 4000 strong) was again landed in the Colony to forestall any efforts the common enemy, France, might make to capture so prosperous a land. • st General Janssens, the Dutch general.

S Capel

a British possession. Once the company with its narrow, selfish ambitions was removed, agriculture and industries, especially sheep-rearing for wool, advanced by leaps and bounds. But in the course of its rapid development the Colony ran up against other disturbing forces. It happened that the native Kaffir tribes were expanding southward at the same time that the Colony was pushing N. The contact of Kaffir and colonist led to a series of wars, the obvious cause of which was the cattlelifting propensities and the predatory habits of the former. But the wars were really an expression of the inevitable conflict between tribal laws and European administration, a con-flict which allowed of no settlement The disastrous compromise. battles at last brought home to the English government the need of controlling native territories by imperial administration. This was actually carried into effect by the Scanlen ministry. Paternal government of the natives outside the Colony was substituted by the Upington-Spring substitute by the Opington-Spring ministry. Jameson, who in 1896 made an unsuccessful raid into the Boer territory of the Transvaal, was a doctor at Kimberley. C. C., especially Kimberley, played an important part in the Boer War (1899-1902), but the Cape rebellion ended early in 1900. Mr. Cecil Rhodes, who was president of the province from 1890 to 1896, pursued an imperial policy in sharp contrast with that of the Bond party. The latter, stimulated by the active encouragement of the famous Afrikander Bond, hoped in vain to estab-See BRITISH lish a Dutch republic. EMPIRE—Cape Colony.

Constitution.—The constitutional development of the Colony was much more rapid than in the older countries. As in the first instance the governors of the Colony were autocrats, it was a fortunate thing that many of them proved men of ability and public spirit. The first executive council was called in 1825, and ten years later the first legislative council, one half of which was nominated by the governor, the other by the crown from its officials. In 1853, at the instance of the council and with crown support, a House of Assembly and a Legislative Council were conceded to popular wish. Finally, 'responsible government' was put altogether in the hands of the Colony in 1872. As early as 1829 it was decreed that men of all nationalities were to enjoy alike the advantages of the common law

was obliged to capitulate. Thus after a military occupation which extended to over some years, the Colony was recognised by the European powers as a British possession. Once the company with its narrow, selfish ambitions was removed, agriculture and industries, especially sheep-rearing for wool, advanced by leaps and bounds. But in the course of its rapid development the Colony ran up against other disturbing forces. It happened that the native Kaffir the covern the Colony only. Thus the 'province of the Cape of Good Hope' is now a self-governing memters of a large federal state.

Cape Fear River, N. Carolina, U.S.A., formed by the junction of the Deep and Haw Rs., enters the Atlantic at Cape Fear, 20 m. S. of Wilmington.

Deep and naw ks., enters the Adantic at Cape Fear, 20 m. S. of Wilmington.
Capeligue, Jean Baptiste Honore Raymond (1802-72), a French historian, antiquary, and politician, born at Marseilles. His works are still read for their vivacious and picturesque style, but they are neither very deep nor accurate. Their number extends to close on 100 vols., and include Hisloire de Philippe Luguste, 1829; Histoire de la Restauration, 1831-33; Richelieu. Mazarin, el la Fronde, 1835; Philippe d'Orléans, Régent de France, 1838; and La Ligue, 3rd ed., 1843.
Cape Haitien, a tn. in the republic of

Cape Haitien, a tn. in the republic of Hayti, and an episcopa see, situated in a magnificent harbour 5 m. from Port au Prince. Under the French government it was the capital of Hayti. It is connected by cable with France. S. America, and San Dominso. In 1842 it was the scene of a terrible earthquake, and in 1865 the town suffered great damase through bombardment by the British. Pop. 30,000. Cape Henry, Action off. The British in 1781 occupied Portsmouth on the

Cape Henry, Action off. The British in 1781 occupied Portsmouth on the James R. in Chesapeake Bay, N. America, and the French squadron at Newport, Rhode Is., proceeded thither under the command of Commodore des Touches. He was met by Vice-Admiral Marriot Arbuthnot off C. H. on March 16. A fight followed which was indecisive, the French losing heavily. The result of the battle was that the English once more gained command of Chesapeake Bay.

Cape Horn, a headland on a small island of the Fuezian Archipelaro, forming the southernmost point of S. America. It was sighted by Drake in 1578, and named by the Dutch in 1616.

stance of the council and with crown support. a House of Assembly and a Legislative Council were conceded to popular wish. Finally, 'responsible government' was put altogether in the hands of the Colony in 1872. As in Cheshire and N. Wales. He accomeanly as 1829 it was decreed that men panied the queen to Paris in 1646, and helped Charles to escape from the advantages of the common law,

was obliged to surrender in 1645. He above, black below, with a dark green was imprisoned in the Tower, escaped, and was re-arrested, tried, and be-

headed. Capel, Arthur, Earl of Essex (1631-83), a British diplomat. He fought for the king in the Civil War, and, on the accession of Charles II., was ap-pointed lord-lieutenant of Hertfordshire. He was sent as ambassador to Denmark (1670) and made lieutenant of Ireland. He opposed the court party and supported the Exclusion Bill. He took part in the Monmouth conspiracy (1682), for which he was committed to the Tower, where he was found with his throat cut.

Capell, Edward (1713-81), English Shakesperian critic, born at Bury St. Edmunds: lived mainly in Hastings and London, where he was deputyinspector of plays. His edition of Shakespeare in 10 vols. with introduction, which appeared in 1767, is said to be one of the purest texts extant. He also wrote Notes and Various Readings of Shakespeare, 1775; and The School of Shakespeare,

1783.

Capella, or Capra, a bright star of the first magnitude (0.2) in the constellation of Auriga, of which it is the brightest. In 1899 Professor Campbell and Mr. Newall discovered it to consist of two sunlike bodies revolving round each other once in 104 days. The luminosity of C. is at least 100 times as great as that of the Proper motion 44" a century.

Capella, Martianus Mineus Felix. a Roman writer living about the 5th century. His chief work, an encyclopredic compilation and known as Saturicon, and drawn from Pliny and Varro, was much used as a school book during the middle ages. Eyssenhardt brought out a new edition in

1866.

Cape of Good Hope, formerly Cape Colony (q.v.) in S. Africa. It is named after the promontory on the S.W. coast discovered by Bartolomeo Diaz in 1488 and named then 'Cape of Storms,' but afterwards re-named Cape of Good Hope 'by the King of Portugal. The coast is low, flat, and sandy, but bolder on the S., commencing with the flat-topped mountain called Table Mt.

Capercailzie, or Tetrao urogallus, a species of grouse of the family Phasiapidæ, and is the largest gallinaceous bird of Europe. Besides the above name it rejoices in several others, such as the capercally, capercaillie, wood-grouse, or cock of the woods. The C. is about the size of a turkey and resembles the blackcock in appearance the Great, Count of Paris. In 987, at

With Sir Charles Lucas and others, and polygamous habit; the general he gallantly defended Chester, but colour of the male is blackish-grey chest, while the female is smaller, mottled, and has a reddish breast barred with black. The feathers on the legs and feet are longest in wintertime, and the toes are quite naked. At breeding-time the male indulges in curious love-songs and antics to attract a mate, and fights between rival cocks are of common occurrence. The food of the birds consists of insects, worms, berries, and young pineshoots. The C. is widely distributed in countries where pine-forests abound; at the end of the 18th century it was exterminated in Scotland, but in the middle of the 19th it was successfully See J. G. Millais' Game reinstated. Birds, 1892.

Cape River, otherwise known as Coco, Segovia, or Wanks, in Nicaragua. forms the boundary between Nicaragua and Honduras. It is 300 m. long and flows into the Caribbean Sea. Navigable for 140 m., though its mouth is barred by a sandbank.

Capern, Edward (1819-94), an English poet, who was born at Tiverton in Devonshire. He wrote under the pseudonym of 'the Rural Postman of Bideford.' Under this nom-deplume he published some poems in 1856; Ballads and Songs in 1858; Devonshire Melodist, with music, in 1862; Wayside Warbles in 1865, and Sun Gleams and Shadow Pearls in 1881. Dickens, Kingsley, and Tennyson all recognised the merit of his work and were duly appreciative.

Capernaum, anct. city of Palestine. mentioned in the N.T. It is usually identified with the modern Tell Hum. on the N.W. coast of the Sea of Galilee, but occasionally with Khan

Minich, a little further south.

Capers, see CAPPARIDACE.
Capes, Bernard, a living novelist.
His chief works are: The Lake of Wine, 1898; From Door to Door, 1900; A Castle in Spain, and The Secret in the Hill, 1903; A Rogne's Tragedy, 1906, and The Green Parrot. 1908; The House of Many Voices, 1911. Cape Sable Island, situated at S.

extremity of Nova Scotia. C. S. is the

most southerly point.

Capesterre, La. or Le Marigot, a tn. in Guadaloupe, French West Indies. 12 m. E.N.E. of Basse Terre. Pop. 8000.

Capet, the family name of the 3rd Frankish dynasty. This family ruled France in a direct line from 989-1328, and through the collateral branches of Valois and Bourbon until the revolution in 1789.

Capet, Hughes (987-996), King of France, b. about 940, the son of Hughes the death of Louis V., the last of the Museum and Public Library (the gift and moderate.

heirs ruled France till the revolution Wynberg. of 1789.

Cape to Cairo Railway. Cecil Rhodes evolved the scheme of running a railway right from end to end οſ the continent of Africa, traversing British territory as much as possible and acting thereby as a connecting link between all British possessions in The branching side lines are Africa. and will always be probably the source of most revenue to the company. The distance between Cape Town and Cairo is 5700 m. The first passenger train arrived at the Victoria Falls on June 22, 1904. At this spot the Zambooi B is superpolar. besi R. is spanned by a steel canti-lever bridge, which is 380 ft. above flood water, and the highest bridge in the world, the next highest being the Viaduct du Viar in France, that being 375 ft. In the year 1910 the railhead from the N. had reached Sennar, except for the river gap between Assouan and Wadi Halfa. This was a length of line of about 1500 m. The line from the C. in 1906 had reached Broken Hill, a length of 2017 miles.

Cape Town, cap. city of Cape Colony, Africa, on the N. side of the Cape peninsula in the S.W. of the colony, on Table Bay, and at the foot of Table Mt., 30 m. N. of the Cape of Good Hope. Table Bay is not a good natural harbour, being exposed to N. and N.W. gales, but a breakwater of 3640 ft. has been constructed to shelter shipping, and there are commodious wet docks, opened 1870, a dry dock, and a government patent slip with a lifting power of 1000 tons. The recently constructed outer harbour has a minimum depth of 27 ft. from Table Mt.,

tram service and a s The chief building

cathedrals. Catholic: mosques; the S. African College; the cacao, cotton, tobacco, cinchona, and

Carlovingian line, he assumed the of Sir George Grey); the Observatory sovereignty of the whole of France, (1820), which is the finest in the and founded the third, or Capetian, southern hemisphere; the Castle (a dynasty. He was accepted by most fort 400 years old); the Houses of of the nobles, but his claim was de-farliament (finished in 1886); Governfeated by Charles of Lorraine, the ment House; the buildings of the rightful heir of Louis V., whom, how-university of the Cape of Good Hope ever, he defeated. His rule was wise (1873), which is an examining body He rallied the great only; and the Botanic Gardens. The sale, and Government Gardens, containing a part of fine oak avenue, serve as a public There are numerous fine and ablished | park. hereditary succession to the monarchy, populous suburbs, including Green and made the king's eldest son Point, Sea Point, Woodstock, Mait-master of the palace. He was suc-land, Mowbray, Rosebank, Ronde ceeded by his son Robert, and his bosch. Newlands, Claremont, and A chain of well-armed forts extends along the shores of Table Bay. The climate is somewhat similar to that of the Riviera, the mean annual temperature being 62.3° F., Jan. 69.9° F., July 55.1° F., with a maximum of 102° F. and a minimum of 34° F. The mean annual rainfall is 24.8 in. The city is an important port of call, but is second to Port Elizabeth in foreign trade. It was founded by the Dutch in 1652. Pop. 167,000.

Cape Verd, the most westerly cape in Africa, situated in Senegambia. It was discovered in 1443 by Nuno Tristae in the time of Henry the

Navigator. Cape Verde Islands, an archipelago, in the possession of Portugal, in the Atlantic Ocean, off the W. coast of Africa, about 300 m. W. of Cape Verde. The islands may be divided into three groups: (1) The Western Windwards, comprising São Antão (246 sq. m.), São Vicente, Santa Luzia, São Nicolau, Branco, Razo; (2) the Eastern Windwards, com-prising Sal and Boavista; (3) the Leewards, comprising Maio, Santiago (396 sq. m.), Fogo, Brava, Grande, and Bombo. The total area is about 1480 sq. m., and ten of the islands, the Brav

The. and largely of volcanic formation, but some ancient granites and gneisses point to a continental origin, and on some islands, as Maio, there are sedimentary deposits. The main peaks are the volcano of Fogo (8800 ft.), which was active in 1847; the Pico de Santo Antonio, on Santiago The town is the terminus of several (7380 ft.); and the Pao de Assucar, on railway lines. It was laid out after São Antão (8000 ft.). The climate is the Dutch fashion with geometrical tropical, though tempered by sea precision, is well drained and paved, breezes. There is only a very short There is only a very short and has a good water-supply coming rainy season in August and Sept., auch distress and famine is

by drought. The soil is not 'ertile, and trees are especially Anglican and Roman rare, but coffee, sugar, Indian corn, several Mohammedan beans, oranges, grapes, peanute,

indigo are grown and exported. Iron liquid has at its bounding surface is found in the southern islands, and between it and another medium (sa) salt, amber, archil, and red coral are also largely exported. Cattle-rearing is extensively carried on, and the coasts abound in turtles. The inhabitants. mainly negroes and mulattos. are very indolent, and speak a de-based Portuguese. Porto Grande, on São Vicente, is a coaling station. The Portuguese discovered the Islands in 1441-56. Pop. about 150,000.

Cape Wrath, the most westerly point on the N. coast of Scotland, in the co. of Sutherland. It is one of a series of wild cliffs formed of gneiss,

and is 300 ft. high.

93-1464), an historian. He 393-1464),

....d became an Augustinian friar. He wrote in Latin Bible Commentaries and Nova Le-genda Anglia in the year 1516. He also wrote Vila Humfredi Ducis Glocestriæ. His chief English works were A Chronicle of England from the Creation to A.D. 1417, and a metrical Life of St. Katharine.
Capias (Lat., that you may soize '), a common name once used in legal

practice to denote a number different writs directed to the sheriff. commanding him to arrest some person named in the writ to come up for judgment, discharge a fine, or perform some other legal obligation. The writ of attachment for contempt replaced the old C. for all

practical purposes. Capillaire, a sort of syrup concocted from the Maidenhair. It is used in medicine as a pectoral and sometimes

as an astringent.

Capillarity (Lat. capillaris, pertaining to the hair), the phenomenon which occurs when a fine tube, open at both ends, is placed vertically in a an Italian Franciscan preacher, born liquid; the surface of the liquid at Capistrano in the Abruzzi.
within the tube is usuall—

or below the surface

exhibit this property are called capillary or 'hair-like' tubes. A similar effect is produced when two glass plates are held vertical and parallel a short distance apart in a liquid; the liquid forms a film between the two plates. If the plates are pulled gently to the Roman Church. He had been apart at one side so as to form a very sent to Moravia as papal legate in acute angle, the surface of the con- 1451. When in Silesia he incited the tains a second seco taine a

later diste

liquia at the point of the angle. Thus | Constantinople. C. diminishes as the distance between however, only one-half of the ascent the Turks. He was canonised in 1724.

several have guano deposits, while air or glass) a surface tension, or tendency for the surface to withdraw itself into the smallest possible area In small amounts of liquid, this tendency is sufficient to overcome the effects of gravity, thus a minute quantity of mercury becomes on a flat surface a globule that is practically spherical, whilst a larger amount simply shows a convexity at the edges, gravity having produced that took upon

In the rould he ...ree sub-

stances in contact, such as glass, air, and water, and the form taken by the visible fluid surface, i.e. that of the water, depends on the relative attracting power of the three substances on each other. Thus whilst water rises in a capillary tube and presents a concave surface upwards, mercury is depressed and has a convex surface. C. is a widespread phenomenon: oil rises in the wicks of lumps, moisture in the roots and stems of plants, by virtue of C. All substances with pores of sufficient size are capable of sucking up water, e.g. blotting paper, sponges. See Surface Tension. Capillary Vessels, the smallest

blood-vessels in the body. The arteries which convey blood from the heart are split up into myriads of branches which vary from a five-hundredth to three-thousandth part of an inch in diameter. By their means the blood is supplied to every part of the body. the flow depending on the direction of the central intelligence. The capil-laries reunite in the veins, by means of which the impure blood is returned

to the heart.

Capistrano, Giovanni di (1385-1456),

the order of the Franciscans He helped to reform his conjunction with Bernhardin

condition is only obser conjunction with Bernhardin diameter is small, hence tubes which of Siena, and he preached against many heretical orders which had come into existence in Italy, especially the Fratricelli. He was twice made vicar-general. He was such an eloquent speaker that he converted many of the Hussites of Moravia back

to persecute the Jews, and vere burned. He also preached

the Turks after the fall of tinople. He took 40,000 Christians to Belgrade in 1456 to help

of labour; in this sense it includes claiming such reward, whether by not only money, but buildings, ma- way of rent or interest or profit. It individuals, but the entire C. of a country, in which latter sense it may be defined as the products of industry possessed by the community, and still available for use only or for further production. C. may be applied either directly in the employment of labour, or directly in aid of labour; it may be spent in the food and clotnes or labourers, or in tools and other auxiliary machinery, to assist their labour and increase its productiveness. The former is usually termed circulating C. in political economy, and the latter fixed C. While the foregoing may be accurate deductions from current nolitico-economibe spent in the food and clothes of tions from current politico-economi-cal theories of C., it is to be observed that C. in social polemics is regarded by some schools of thought as that which is radically opposed to labour. is the basis upon which everything tinction amongst political economists else rests—the juridical, the religious, dam Smith classes the one as C. and the political the social life of the people—argued that while political accommy was right in holding that the consumption of surplus products by productive labour was a feature of accumulation, it was wrong in holding that all surplus value that is changed into C. became such C. as was represented by labour power. With the same critical analysis of prevalent principles of economists, larx considered that private property, based upon the labour of its of the productive labour of the productive labour of the proportion as one or other of these accumulated C., John Stuart Mill lays are prevalent principles of economists. owner, had become by the evils of our is generally agr of labour were paid from the value of that which labour produces, and that therefore labour produced its own remuneration. As against these current political economy asserts that the accumulated savings of labour and of accruing profits reserved for development, and generally to extend the means of progress necessary to an advancing com- entirely erroneous to suppose that C.

that part of wealth which is accumu- | munity, constitute a collective abstilated in order to assist future pro-duction. In commerce the term is labourer for the ultimate good of all, used to express the stock of the mer-land that, because the capitalist post-chant, manufacturer, or trader, used pones or denies himself the present in carrying on his business, in the enjoyment of a portion of his means purchase or manufacture of com- of consumption in the expectation of modities, and in the payment of wages prospective reward, C. is justified in chinery, and all other material objects is further argued that wages are paid which facilitate commercial opera- not out of labour but out of C. It may tions. In a more extended form C, be said that the ultimate source of embraces not only the C. of particular both wages and profits is the value of that which labour and C. combine to create, and that no progress can be made in any sphere of industrial activity without the help of reserve funds, controlled by few or more persons who risk those funds for the sake of progress. C. may be said to be first called into existence by the natural foresight of man, who, even in a savage state, discerns the advantage of not immediately con-suming the whole produce of his exertions in present gratification, and stores up a part for his future sub-sistence. From the moment at which a man produces more than he consumes, he is creating C; and the accumulated surplus of production over the consumption of the whole community is the C. of a country. Those parts of the products of labour Karl Marx, starting from the position | which are reserved for the reproduction of other commodities, and those that the conomic structure of society, tion of other commodities, and those i.e. the method of production and which are intended solely for use or distribution of the products of labour, consumption, have constituted a disis the basis upon which everything tinction amongst political economists.

owher, had become by what he profit is favourable to accumulation; termed 'capitalistic' private property, based on the labour of other are denied this advantage; that, if persons than the owner of the they enjoyed it, their C. would conproperty. Henry George, in Progress, time to increase more rapidly than it and Poverty, contended that the wages | does in fact increase; but that, under ordinarily favourable circumstances. the masses of inherited C. and the aggregate savings of vast numbers of capitalists still facilitate accumulation in a greater ratio than the increase of population, which a high state of civilisation has a tendency to cheek. In ordinary parlance C. and money are synonymous; but it is

ip, of

and money can be the same thing. If | from rocks, after the manner of the they were so, it would be untrue to say that C. was one of the requisites of the production of wealth, for money in itself does not assist in the production of wealth. The bank deposits of a country form what is called its floating C.' Such deposits may be withdrawn soon or late, or, on the other hand, may continue to accumulate for a long period; but in any case they are the actual money values of wages, rents, profits, commodities, and interest, placed temporarily or permanently at the service of the community for social uses in exchange for a rate of interest. Such deposits are not convertible into an equal amount of bullion, much of them being in the form of bills, securities, etc., and a country is deemed richer in proportion as these deposits increase in amount, because such infavours crease an extension resources for employment.

Capital, in architecture, see Column. Capital Account, see BOOK-KEEPING. Punishment means Capital punishment of death for crime in conformity with the sentence of a properly constituted tribunal, civil or military. Whatever may have been its origin, whether in feelings of revenge, regularised by the lex talionis (the law of 'an eye for an eye and a tooth for a tooth'), or in theories of retribution or deterrence, C. P. is a term opposed to all irregular modes of punishment such as the American 'lynch law,' or any modern survival of 'blood-avengers.' C. P. is so of 'blood-avengers.' C. P. is so named from the Lat. caput, because hanging or decapitation were the most usual modes of C. P. In Roman law, however, the term appears to og forms us,

certain acts. In more primitive societies, when civil tribunals were far from being of certain authority or possessed of adequate machinery for enforcing their decrees, the punishment of murderers or other homicides was, as in the case of most other kinds of criminals, a matter for self-redress. A modern survival of this is to be found in the Corsican vendetta. Subsequently, in England during Saxon times, man-slaving becomes the subject of compounding by the payment of what was known as 'wer-gild,' or blood-money, the amount of which varied with the degree of importance in the social scale of the murdered person.

History of capital punishment.-In

Roman custom of throwing malefactors from the classic Tarneian Rock. After the Conquest mutilation seems to have been substituted, and this is the punishment mentioned in the Assizes of Clarendon and Northampton (temp. Henry II.). The law was variable but gradually

condition the mon punishment for a great number of crimes, comprising treason and all felonies except larceny and mayhem (wounding). This state of things continued down to 1826, at which time there were nominally no fewer than 200 crimes punishable by death. The law and practice were, however, somewhat divergent, and as Bentham points out in his Theory of Legislation both juries and judges resorted to all manner of subterfuges to evade the literal harshness of the law. The strict letter of the common law was also subject to the mitigating influence of the curious privilege of benefit of clergy (q.v.). Benefit of clergy exempted clergymen in certain cases from criminal punishment by secular judges. Afterwards the privilege became extended to all, whether cleric or lay, who could read or stumble through the 'neck-verse.' Benefit of clergy was never permitted in cases of high treason or in offences not capital. At the present day in England the only capital offences are treason, nurder, piracy with violence, and the crime of setting fire to His Majesty's vessels of war, arsenals, military or naval stores, and ships in the port of London. The sentence of C. P. may also be passed by courtsmartial in various cases of mutiny, desertion, or sleeping on sentry duty. There has been no execution for treason for a century or more. the old barbarous features of punishment for treason, comprising the drawing of the traitor's body to the place of execution on a hurdle, dis-embowelling, and quartering the body, would certainly not be applied nowadays. Most countries in the Old and New

World still retain the death penalty for treason and murder, and, in some cases, for other crimes. France, in more modern times, tried the experi-ment of abolishing the sentence for a period, but with disastrous results. It exists in Austria-Hungary, Belgium, Denmark (where it is the punishment also for rape and piracy), Germany, France, U.S.A., Japan, and other countries. It has been abolished in Holland, Roumania, Portugal, Switzerland, and Italy; in the lastmentioned country opinion being pre-Norman times there were various switzerland, and Italy; in the last-forms of C. P., including hanging, mentioned country opinion being decapitation, burning, and hurling largely influenced by the emotional

Beccaria. In Russia C. P. can only be inflicted by martial law. The general trend of public opinion is by The no means averse from the death penalty as a fit sentence for murder at least. In England an attempt half a century ago to abolish it in the case of setting fire to arsenals and ships was defeated. The ferocity of our own law up to 1826, apart from the fact that the letter of the law was frequently ignored, was such as to occasion an outburst of indignation in the writings of Goldsmith and In conformity with his Bentham. general theory of punishments and rewards, that the evil of punishment must not exceed the advantage to the offender of the offence, and that punishment should be exactly and mathematically proportioned to the offence, Bentham would have abolished the death penalty in most cases, retaining it only for treason and murder. Bentham does not appear to have condemned publicity in executions, but rather favoured the idea of the auto-da-fé, provided only it were an act of justice, carried out with every solemnity of preparation and ceremony, and not regarded as an act of faith. Bentham was greatly in-fluenced by the writings of Beccaria, in the legal notion of murder. Only and in one passage says that and in one passage says that more attention one gives to the pen of death, the more will he be incl. to adopt the opinion of Beccar that it ought to be disused. eloquent passage he conceives 'the prodigal fury 'involved in C reveals an imbecility of soul w sees in the destruction of the conthe most convenient way of securing | Crime in that he shall no longer be an object of concern to society; and he con-cludes his words on C. P. by denying on the ground that most fear death less than w humiliation. Beccaria, in his on Crimes and Punishments, first of poetry, of sentences, of proper published in 1764, argues against the capital sentence being carried out in any case, denying the right of man so to punish, and maintaining that it is a less efficacious mode of deterring others than the continued example of a living culprit condemned by labouring as a slave to repair the injury done to society. Beccaria's work had the merit of attracting greater attention to the subject of crime and punishment; yet it contains many principles of very doubtful value, and some deductions that are not sound. Romilly's criticism that Beccaria's admission of the right of human tribunals to inflict certain more severe than effectual punishments death, involves an admission of the

writings of the celebrated Marquis | right to inflict the less severe penalty Kant also of death, is almost fatal. destroyed the value of a good deal of Beccaria's teaching. In contradis-tinction to Beccaria, Bentham holds that death is regarded by most men as the greatest of all evils, and hence the most efficacious as a form of punishment. C. P. has also been opposed on religious, moral, medical, and legal grounds. Lombroso, after the manner of Plato's morbid theory, sees in murder a manifestation of criminal atavism, deeming the crime a form of disease. Theories of irresponsibility or irresistible impulse to homicide, find, however, no favour in England, and the English criminal law has nothing analogous to the crime passionelle of France. The religious idea that the death penalty robs the criminal of his due time for repentance has also but few sup-porters. The question of C. P. in the United Kingdom was considered by which sub-Royal Commission. The committed its report in 1866. The com-missioners recommended, inter alia, the restriction of C. P. to high treason the law as to the abolition d the instituto public pted since

> but the are often uction of Theory of Listory of

e never in

England: Russell, On Crimes: Pollock and Maitland, History of English Law.

Capitals (Lat. capitalis, pertaining the validity of the deterrent theory to the head), in contradistinction to

> names, etc., to help the eye and so facilitate reading. The ancients never used Cs. (majuscula) and small letters (minuscula) concurrently; either all Cs. were used or all small letters. All the old manuscripts are in Cs. alone After this up to the 7th century. After this time Cs. began to be used only at the beginning of books and chapters; they were often elaborately illuminriteth capi-Trevisa, Cs. were

very much bigger than the small letters, and not, as in ordinary typo-graphy, about twice the size. There were two chief types of C —the square and the rustic; the latter were characterised by curves and by finer strokes. Cs. are in general use at the and in 1534 Michael Angelo was compresent day in nearly all languages. and their use is chiefly to help the reader. In the German language substantive every has an initial capital; in English Cs. were formerly used much more freely than they are now. Adjectives derived from proper nouns, as English, French, etc., have initial Cs. in English though not in French or German; so also have all nouns and pronouns referring to God. The pronoun I is always written with

a capital; the Latins did not think it necessary to write in this way an i

standing alone: the Latin verb ire. to go, had in the imperative i, and so

it was written. Capitanata, an ancient prov. of the kingdom of Naples, Italy, now called ringular (1,t.). It was bounded on the N.E. by the Adriatic, on the N.W. by the district of Samnio, on the S.W. by Principato Ultra, and on the S.E. by Basilicata. It is an agricultural district. Lemon, oranges, capers, oil, terebinth gum, cheese, cattle, and

ponies are exported. Capito, Caius Ateius, Roman jurist of the time of Augustus. He became consul suffectus in A.D. 5, and curator aquarum publicarum in 13, and died in 22. He studied law under Ofilius, and was a rival of Labeo. C. founded the Sabiani school of lawyers in opposition to the Proculeiani of Labeo. Only fragments of his works remain.

Capitol, Capitolium, Mons Capito-linus. The 'Capitol' (Lat. capitolium) was the term applied to the great temple of Jupiter Capitolinus and the other buildings, such as the citadel, and the Tabularium, built by Quintus Lutatius Catulus in 78 B.C., in which the public archives were kept, which stood on the Capitoline Hill (Lat. mons Capitolinus) in ancient Rome. The temple was founded by Tarquinius Priscinus about 600 B.C., and dedicated in 507 B.C. It was injured by fire during the civil wars of Sulla's time in 83 B.C., rebuilt, but destroyed again by fire in A.D. 69 and A.D. 80. It was again restored by Domitian. It formed the central point of the religious life of Rome, containing as it did the Sibylline books. To it generals went to make thankofferings to the gods for triumphant cam-paigns, and consuls to record their vows, while the senate often met on the hill. The temple was surrounded by minor buildings, and by an esplanade on which were statues of gods and heroes. The steepness of the hill rendered it an admirable natural fortress. Near the temple was the Tarpeian rock, from which traitors were thrown. In the middle ages all the buildings had fallen into ruins,

missioned by Pope Paul III. to draw up plans for new buildings on the site. The C. now consists of a square, containing a statue of the Emperor Marcus Aurelius, the Campidoglio, built by Michael Angelo, but only an inferior example of his work, the Senatorial Palace (1579), the Capito-line Museum (1614), and the church of S. Maria in Araceli. More than al cities built

lel of that at t at Capua. Brescia and

Pompeli. Capitularium (Lat. capitulum, chapter, from caput, head), a name applied to the constitution or laws promulgated by the Frankish kings. These laws were classed under different chapters, called capitularies. The first collection of these was published by Ansegisel, Abbot of Fonte-nelle, in the reign of Louis the Pious. The best modern edition is that of Boretius, Monumenta Germaniæ his-

torica, etc., Legum Sectio II., vols. i. and ii., 1883-97. Capitulation denotes a series of articles in time of war constituting an agreement for the surrender to a hostile armed force of a fortress, town, piece of territory, or body of troops naval or military, with the detailed conditions under which the surrender is to be made. The term used to be restricted rather to the surrender of a beleaguered garrison, the agreement by which an army or a large division of troops surrendered to a superior force or engaged to account a the territory its strength

such as to 1 the enemy, cumstances known as a Convention. Such was the convention of Cintra, made at Lisbon, between General Dalrymple and the French general, on the departure of the French army from Portugal in 1808. When the provisions and ammunition of a garrison or force are nearly expended, and no chance remains of the siege being raised or the force succoured, the governor of the besieged town, or commander of the defeated force, is justified in entering into an agreement with the enemy respecting the terms on which he consents to surrender; and by the rules of war he is entitled to obtain an honourable C. It is to be observed, however, that if he should postpone surrender pro-posals till his provisions are entirely exhausted, the enemy may refuse to grant terms, and he can then only surrender at discretion. The con-ditions of C. vary greatly, and are generosity or patience of the victors. From the nature of the circumstances of most Cs., no previous instructions are or can be required from the capitulating party's government before the final determination of the conditions of C. The conditions The conditions generally include the surrender of the arms and military stores of the garrison or other capitulating body to the victors; the officers and troops retain only their private property, but are allowed to march out of the fortress or town, or to their place of destination, with the honours of war, that is, with drums beating and colours flying. Other very usual conditions are freedom of religion and security of private property. Where a portion of territory is concerned. the territory and the magazines within it are yielded on condition of the force holding it being sent home with or without arms, and either subject to or free from an undertaking not to bear arms or serve for the remainder of the war. When necessary, a convoy is allowed the capitulating body for protection till they arrive at their destination. Where a C. is made by an officer who is not invested with the proper authority, or who has exceeded the limits of his authority, the C. is called a 'spon-sion.' Article 35 of the Hague Conmention of 1899 requires a sponsion to be confirmed by the express or im-plied ratification of the state or e side of surrender,

the other side to accept the ratification, in order to be binding. It is an implied term in the C. of a place that the capitulating force shall not destroy its fortifications, stores, or ammunition after

the ag Author Wheat

Law;

Capitulations denote the arrangements and confirmatory treaty by which foreigners are granted im-munity from the civil or criminal jurisdiction of the state making such Such arrangements and treaties necessarily constitute a derogation from the inherent sovereign rights of an independent state, and are only resorted to as against states which can hardly be said to be sufficiently far advanced in their civilisation to observe the general rules of international law. An instance of such C. is furnished by the arrangements made at various times ever since 1535 between the various Powers and the

necessarily determined by the circum-law, but the C. already made have stances of the case and the degree of never been abrogated on the ground that religious inequality and a cor-rupt administration are unlikely to

ensure justice to foreigners.
Capitulum (Lat. diminutive of caput, head), a botanical name for a particular form of racemose inflorescence in which the main axis is short and usually disc-shaped, and is covered with sessile flowers. It is is covered with sessile flowers. It is typical of the Composite. e.g. the daisy and dandelion. This C., or head, is vulgarly confused with a single

flower.

Capiz, a prov. and city in the island of Panay, belonging to the Philippines. The city is situated on the N. coast, on a river large enough for small steam craft. The climate, though hot, is considered healthy. Sugar and rice are largely cultivated, and to a lesser extent tobacco cacao, and Indian corn. The manuf. of alcohol, from the fermented juice of the nipa-palm, is extensively carried on, and also cotton and hemp-weaving. The fisheries are important. Pop. of city 25,000, and of province 280,000.

Capmany y de Montpalan, Antonio de (1742-1813), Spanish author. He served in the war against Portugal. but retired from the army in 1770. was afterwards a prominent member of the Cortes of Cadiz. principal works are: Teatro historicocritico de la elocuencia Española, and Historicas sobre la Marina, Commercio y Artes de la Antigua Ciudad de Barcelona.

Cap Martin, a pine-covered pro-montory which forms the western extremity of Mentone, in the dept. of Alpes-Maritimes, France. The principal feature is the huge hotel which is situated on the cape.

Capnomor, a colourless volatile oil and in wood tar from which, with ther products, it was first extracted y Reichenbach. It smells something ke ginger, and burns with a sooty

flame. Capo d'Istria, a tn. in the coast prov. of Istria in Austria-Hungary. It is a seaport town about 9 m. from Trieste. and is situated on an island in the Gulf of Trieste, the island being connected with the mainland by means of a bridge. Its chief products are oil and wine. It also trades in salt, and its fisheries are of considerable importance. Pop. about 11,000.

Capo d'Istria, John Anthony, Count (1776-1831), was born at Corfu. He had originally intended to become a doctor, but took up politics instead. He fulfilled several important offices in the Ionian Isles for a period of five Turkish Porte. Turkey is not now years, and was then appointed to outside the ambit of international manage the foreign affairs of Russia, in whose service he showed great Italy he strove to improve the concapability as a diplomat. In 1827 he dition of the Italian people. On the gained the confidence of the Greeks, unification of Italy he became senator and became president of their country. At the same time he remained in the confidence of Russia, and de-stroyed his popularity in Greece by neglecting to work solely in its interests, and by giving the impression that his ultimate aim was its annexation with Russia. He was fassassinated at Nauplia by He was finally brothers.

Cappadocia was a dist. in Asia Minor differing very much as regards its boundaries at different times dur-ing its history. It was originally a province under Persian rule, and included all the north-eastern portion of Asia Minor, bounded on the W. by the R. Halys and on the S. by the Taurus. Later on, while still under the rule of Persia, it was divided into two parts or satrapies, the northern one being called Cappadocia ad Pontum, afterwards shortened to Pontusalso called Cappadocia Minor-and the southern part Cappadocia (Cappadocia Major). In A.D. 17 Cappadocia became a Roman province under Tiberius, and after this time the districts of Melitene and Cataonia were added to it. Its two chief rivers were the Halys and Melas.

Capparidacese, a dicotyledonous order of herbs or shrubs found in the tropics and warmer countries. flowers are hermaphrodite, isobilateral, usually growing in racemes; the sepals are in two whorls of two, the petals are cruciform and four in number, the stamens are either four or more, the carpels are usually two in number, superior, syncarpous, and are borne on a gynophore. The fruit is a siliqua or a berry. The order is a siliqua or a berry. The order greatly resembles the Cruciferæ in many respects, but few species are economically useful. The flower-buds of Capparis spinosa, which grows in S. Europe, are sold in shops under the name of capers.

Cappel, a vil. of Switzerland, in the canton of Zurich, 4½ m. N. of Zur, and 10 m. S.S.W. of Zurich. It was hore that the reformer Zwingle met with his death in the conflict of 1531, and a monument was erected to his memory in 1838. There is an old

Cistercian convent of 1185. (1792-Capponi, Gino, Marchese 1876), Italian historian and statesman, member of one of the most illustriou

went to III., Gr · returned was rein

to travel in foreign countries and to differ only slightly from regular study. English institutions impressed sonata or rondo forms. him very deeply, and on his return to

dition of the Italian people. On the unification of Italy he became senator and president of the Historical Commission for Tuscany, Umbria, and the Marches. His principal work is Storia della Repubblica di Firenze. He founded the Antologia on the lines of the Edinburgh Review.

Capra, the goats and ibex genus, is distinguished among the Bovide in having both sexes with flattened horns and the males with a beard and a strong odour. The species inhabit a strong odour. The species inhabit the mountains of Europe and Asia. C. ibex is the Swiss steinbok, C. pyrenaica the Spanish ibex, and C. egagrus the wild goat of Persia.

Caprera, a small island of Italy, situated to the N. E. of Sardinia, from which it is divided by a strait. It is straightful to the N. E. of Sardinia, from which it is divided by a strait.

6 m. long, 2 wide, and about 6700 acres in area. There are pasture lands and cornfields. Garibaldi had a residence here.

Capri, an island at the extreme S. of the Bay of Naples opposite Cape Campanella, about 9 m. in circum-ference. It is composed almost en-tirely of calcareous rocks, and the scenery is extremely beautiful. Solaro, commanding an extensive view. is the highest point in the island. Capri, the capital, is situated on one of the accessible spots on the island, and possesses a cathedral. The other town in the island, Anacapri, is reached by a very narrow road cut in the rocks. N. of this town is the 'blue grotto,' for which the island is famous. It is a cavern entered from the sea, and obtains its name from the reflections of blue seen everywhere. The Roman Emperor Augustus resided in C., and his palaces were afterwards enlarged by Tiberius. The remains of the Villa Jovis, one of the largest built by him: are still in existence. It is said that Tiberius lived a life of crime and debauchery here, and that from a high rock on which one of his palaces was built he used to hurl people into the sea. The chief products of the island are wine, oil, oranges, and figs. Pop. about 5000.

Capric Acid, or Decoic Acid (C10 II 2002), is found, together with caprylic and caproic acids, in butter, and also in cocoa-nut and fusel oils. It forms slender needlelike crystals. and has a faint odour somewhat like

goatskin.

Capriccio, in music, the term

Capricorn, Tropic of, see TROPICS.

Capstan

lly represented the forepart of part of a fish.

It marks the winter solstice, and was regarded by the ancients as a precursor of good fortune. It contains no large stars, the most important being only of the third magnitude.

Caprification, a curious and ancient habit still extensively practised in the Levant for the maturation of figs. It consists in planting wild fig-trees among trees bearing edible figs, grafting them on the cultivated plants or merely hanging the branches upon them. The Caprificus, goat, or wild fig, bears male flowers, and the cultivated fig chiefly female flowers, so that by introducing the former to the latter fertilisation may be effected by means of wasps and parasitic insects.

Caprifoliaceæ, a monocotyledonous order represented in temperate counconsists chiefly of trees and shrubs. The flowers are hermaphrodite, actinomorphic, or zygomorphic, usually five mesons, have epipetalous stamens, an inferior gynæceum consisting of two to five inferior syncarpous carpels with numerous ovules; the fruit is a berry, drupe, or capsule. The leaves are opposite and usually exstipulate. Many species are well-known in Britain, e.g. Sambucus nigra, the elder; Viburnum opulus, the guelder-rose; Lonicera Periclymenum, the honeysuckle; and Symphoricarpus racemosus, the snowphoricarpus racemosus, berry.

Caprifolium, see LONICERA.

Caprimulgidæ, the family of nightjars or goatsuckers, consists of cosmopolitan coracilform birds with soft, owl-like plumage. The beak is short, with an enormous gape, the legs are short and weak, and the birds are night-flyers living in forests and feeding on moths. Caprimulgus europæus, the night-jar or fern-owl, is common in Britain, and Steatornis carinensis, the oil-bird or guarcharo, inhabits South America.

Caprino, a tn. of Italy, in the prov. of, and 10 m. W.N.W. from the tn. of, Bergamo, with manufacture of silk.

Pop. 2000.

Caprivi, Georg Leo, Graf von (1831-99), a soldier and statesman, chan-cellor of the German empire, one of a family sometimes known as Caprivi de Caprara. He fought in the camde Caprara. He located and in the paigns of 1864 and 1866, and in the

0th army himself the Loire.

of the 10th army corps. He succeeded also ridged so that a larger amount of

Capricornus (the Goat), a southern Bismarck in 1890 as chancellor and foreign minister. He brought about a number of negotiations with the English in S. Africa; these were, on the whole advantageous for

> Heligoland. C. passed the Army Bul in 1893 and retired in 1894 owing to disagreement with Count Eulenberg.

> Caproic Acid. or Hexoic (C. H.: O.), an acid found in butter and cocoa-nut oil. It is obtained from the latter by saponification with caustic potash and distillation with dilute sulphuric acid. It is a ferrocraftion product of by training it. It is an other liquid of unpleasant established and sweat.

Capromys, see MURIDÆ. Capros, a genus of boar-fishes, occurs in the Atlantic and Mediterranean in rather deep water. C. aper is not unlike the dory, but its mouth is more protractile, the body is covered with scales, and the dorsal spines lack long filaments. This species is about six inches long, a pale carmine colour above, and silverywhite beneath.

Capsella, a genus of N. Cruciferæ, is known in Britain chiefly from C. bursa-pastoris, the shepherd's purse. This weed is an annual herb, cosmopolitan in distribution, and the flowers

fertilise themselves.

Capsicum, a genus of Solanaceæ, is of economic importance on account of the pepper obtained from some of the species. The shell of the fruit is fleshy, coloured, and contains a pungent principle which also exists in great activity in its seed. Both the fruit and the seed of different species are therefore valuable as a condiment, and are used in seasoning food and in the preparation of pickles. C. annum, a weedy plant found wild in S. America and the W. Indies, is greatly cultivated, and its fruit and that of C. longum are known to us as Chili or red peppers; dried and ground they form Cayenne peppers. C. fruticosum is an E. Indian shrub with a small fruit, which is called . goat-pepper.

Capstan (Fr. cabestan : Lat. capistrum, a halter; Sp. cabestrante), a machine used on a ship for manipulating weights, such as anchors. Cs. were originally made of wood, but are now generally made of iron. The axis of this appliance is vertical, differing in this respect from a windlass, which has a horizontal one. The barrel, round which the rope is coiled. larger at the top and bottom than in ad of the the centre, thus allowing the cable to mmander be drawn towards the centre. It is

rope may be wound round at one; time. The drumhead, which is fixed above the barrel, has a number of square holes in it, and the C. bars project from these holes like the spokes of a wheel. At the base of the C. are placed the pawls, or short bars of iron, bolted to the deck by means of the pawl rim. These are to prevent any recoil of the rope. The usual method of working Cs. at the present time is by machinery rather than by Cs. are also used in railway goods yards for shunting trucks.

Capsule, a name applied in botany both to dry fruits formed from more than one carpel and to part of the sporogonium of the Bryophyta, or liverworts and mosses. In the latter case the C., or theca, gives rise to spores, and thus is of great importance in the asexual generation of the plants. The capsular fruits are developed from ovaries of which the carpels are fused, and there may be one or more loculus; the dehiscence, or splitting open, is performed in various ways, and ought to be noted. If the splits run down the midrib of the carpels, e.g. iris, it is called loculicidal; if the fruit splits into its various carpels, e.g. rhododendron, septicidal; if the outer wall breaks and the seeds remain in the middle, e.g. thorn-apple, septifragal. In the poppy the dehiscence is porous, the seeds falling from holes at the top of the fruit, and in the pink the fruit dehisces by means of teeth. Captain, title found in almost all

languages to denote a chief of a small band of men (from Lat. caput, head, chief). This name is especially applied to a grade officer in the army or navy.

Navy .- Strictly the commanding officer of a man-of-war or of a frigate carrying at least twenty cannon. the British navy and most others the C. is next in rank to the rear-admiral or commodore (about corresponding to an army colonel). This rank was

torces on war vessels were combined. In earlier times the 'master' had charge of the navigation, and the fighting was done by soldiers under their military officer. A C. in the their military officer. A C. in the royal navy is responsible for military government, navigation, and equipment of his ship, for the crew's discipline and health, and for neglect of duty in inferior officers. Postcaptain merely means full C. (from the time when Cs. of large vessels the time when Cs. of large vessels case, and at whose instance the dewere 'posted' on the permanent list of Cs., from among whom admirals were chosen). A flag-captain commands the admiral's ship. The C. of the fleet is a temporary official ap-

pointed by the Admiralty to keep up the discipline of the fleet. under a commander-in-chief as adjutant-general of the force, and wears the uniform of rear-admiral. The title is applied by courtesy to all who command ships at sea, whether they hold that rank or not. It is also given to the chief sailor of particular gangs of men in charge of a certain portion of the ship's company, as C. of the 'top,' 'forecastle,' 'hold,' 'gun,' etc.

Capua

Military.—Commanding officer of a company, troop, or battery, ranking between a major and a lieutenant. This grade is the third in the order of promotion. Formerly the title of an officer of high rank (like the modern colonel), it is now restricted only to the head of a company or squadron.

of his troop. In a camp or barracks he supervises the cooking and messing The C. also keeps all of the men. accounts and reports of the company. He selects the first sergeant, and re-commends non-commissioned officers The title captain-general meant chiefcommander of the army or militia. and is still so used in Spain; also for the governor of Spanish provinces or colonies. The title (merely meaning head ') is applied to the head boy of a school, and used similarly for the head of a football or cricket team

Captain, a ship-name in the British navy closely bound up with Nelson's battles. But the best known 'C.' is that of the disaster of Sept. 7, 1870. This vessel was a turret ironclad of 6950 tons built in 1869: it capsized in a violent storm off Finisterre and was lost. The first ship of this name was built in 1678, and the following are important battles in which a 'C. figured: Beachy Head, 1690; Barfleur, 1692; the battle off Cape Passaro, 1718; Minorca, 1756; Louisberg, 1758; the Quebec expedition, 1759; Toulon, 1793; Hotham's battle off Genoa, 1795; Ilyères, 1795; at Hyères, 1795; at Cape St. Vincent. Corsica, 1796; Hyeres, 1793; at Corsica, 1796; Cape St. Vincent. 1797; Copenhagen, 1807; and Martinique, 1809.
Caption, in criminal practice, denotes: 1. A heading to an indictment describing the accept that the complete of the control of the con

describing the court where the in-dictment is preferred and the pro-ceedings leading up to the finding of the bill before the Grand Jury. The heading to depositions (signed statements of evidence taken before a magistrate) stating the name of the

proach to Naples. Its fortifications are occupied mainly in missionary were constructed by Vauban, and labours.

Capulets and Montagues, the Eng-C. is noted for its fertility, producing quantities of fruit. This town is the seat of an archbishop, and possesses a cathedral, and although a large part of the latter has been reconstructed. some very ancient columns still remain at the entrance. The church of the Annunziata is also noteworthy. The modern C. was built in the 9th century near to the site of the old city of Casilinum, but the ancient town of C. was about 3 m. away from this, standing on the site of the modern Santa Maria di Capua. The old town was founded by the Etruscans, but in the 5th century B.C. it was conquered by the Samnites. After the battle of Cannæ, 216 B.C., it went over to Hannibal, but was again taken by the oldest in Italy. Capuana, Luigi, Sicilian novelist.

playwright, poet, and critic, born 1839 at Mineo in Catania. As dramatic critic to the Nazione of Florence and other periodicals he wrote the articles which form the volumes called Studii di letteratura contemporanea. Libri e Cappbara (Carpinello, water hor).

Teatro, etc. But C. is at his best as or Hydrocherus cappbara. constitutes a story-teller and novelist. and many in Caviide. or cavy family. It is the

The name is said to have been given has a black spot resembling a cowl on its head. The genus consists of monkeys which have a completely hairy tail, a well-developed thumb, and the species are not woolly. They are found wild in S. America and are frequently kept in captivity, especially by organ-crinders. Their diet is chiefly veretable, but they do not refuse insects and caterpillars.

Capuchins, an order of friars in the Roman Catholic_Church, originally a branch of the Franciscans. It was founded by Matteo di Bassi in 1529. who, returning to the true habit of foot, and were a pointed hood with brilliant metallic colours.

is a fortified town guarding the ap-inumerous, wear a brown habit, and

Capulets and Montagues, the English names of two celebrated noble Veronese families, the Cappelletti and the Montecchi, famous for their fierce rivalry, their hereditary hatred and bitter feuds. Their story is bound up with the Italian traditions of the middle ages; both families belonged to the Ghibelline party, and they are referred to by Dante (Purgatorio, canto vi.). Already known in England, Shakespeare further immortalized the in Party and Party ised them in Romeo and Julid.

Capus, Alfred, a French dramatist and novel-writer, born at Aix in 1858. His best known plays are: Brignold so Fille, Les Innocents (in collaboration with A. Allais), Rosine, La l'eine, La Châtelaine. Le Beau Jeune Homme. L'Ange. L'Aventurier, and Les Deux Ecoles; his principal novels: Qui perd Hannibal, but was again taken of the Romans four years later. It was Ecoles; his principal novels: yeu parter eventually destroyed by tribes of gagne, Faux départ. Monsieur reul creul partieur des d'Arentures. C.'s and Années d'Arentures. C.'s pervaded by an optimistic fatalism; they are popular because. while providing food for reflection. they are not overweighted with psychological and moral philosophy; they are highly amusing and, in general, reflect the life of contem-

porary Paris.

of his novels and tales are known in Cavidir. or cavy lamily. It is the translation in England. France, Ger-largest rodent in existence, being many, and Russia. Among his best sometimes 4 or 5 ft. in length; the works are: Giacinta. La Sfings, Le cars are small, there is no tail, the hair Appassionala. Fausta Bragia, and is rough. The anterior limbs are four-Crem une volla (a fairy-tale, Once tood, while the posterior are three-Upon a Time in English translation). toed, and all the digits are webbed Capuchin Monkey, a name applied with hoof-like nails. As might be extended to the poeted from this condition, it is an examinate or else specifically to the acquatic animal and lives near rivers. sapajous, or else specifically to the aquatic animal and lives near rivers individual C. capucinus, the weeper, and lakes. It does not move swiftly on land, but is a good swimmer and usually present in males, or because it large guinea-pig, and like this relations as black spot resembling a continuous form. stupid.

Caqueza, a tn. of Colombia. S. America, in the dept. Cundinamarca.

Occidentales Caraballos range of mountains in the island of Luzon in the Philippines. They extend in a northerly direction from the Gulf of Lingayen to Mayraira Point. The highest peak is Mount Data, 7364 The range as a whole is complex in character, with a central ridge of spurs.

Carabidæ, or ground-beetles, form family of coleopterous insects. at Francis, grew a beard, went bare- many of which are large and adorned foundate) from which the order takes are essentially terre-trial, and few of its name. In 1619 the C. became an the British species are capable of independent order. They are very flight About 13,000 distinct members of the family are known to exist, arch of Septimius Severus. and the larvæ are interesting, as they bon's Decline and Fall, 1.; Meister's destroy many smaller insects and Dissertatio de Caracalla, 1792.

worms.

Fr. carabinier, a man who carries a Falconide, and common to America. carabine, or carbine), formerly the The bird is a powerful flyer and a name given to all regiments of light good walker. Its nest is sometimes skirmishers and harass the enemy. The name carabiniers was abolished in number. It feeds on carrion and in the French army in 1870, and the 6th Dragoon Guards in the English army are now called distinctively, the Cs. The sole difference between The sole difference between this regiment and the rest of the cavalry is in the name.

battle took place in 1821. Coffee, ment buildings, museum, and library. suzar, and cacao are grown. Pop.

221.891.

family Carabidæ (q.r.), is well repre- is not a large manufacturing city, but sented in Britain, e.g. by C. violaceus, is a very important commercial a metallic coloured beetle. Some centre. Pop. about 80,000. species are vegetable-feeders at times.

in 217 built a tower there, the ruins of which still remain. Pop. 12,000.

Caracal, a species of lynx found in Africa and the warmer parts of Asia. It is reddish-brown, with white under parts, and two white spots near each eye. The ears terminate in a long tuft of black hair, from which the animal derives its name, C.—black ear. It is savage and very powerful. The skin is made into coats by the Kaffirs.

Caracalla, Marcus Aurelius Antoninus Bassianus, son of Septimius 208-11. He murdered his brother, Geta, becoming sole emperor, 212.

See Gib-

Caracara, Carancho, or Polyborus Carabineers, or Carbineers (from tharus, a carrion-hawk of the family Their function was to act as built in trees and sometimes on the ground, and the eggs are three or four also on young animals which it captures alive.

Caracas, a town, the cap. of Venezuela, in S. America. It lies in a vale of the Andes not far from its port, La Guaira. The soil is fertile, the water supply good, and the Carabobo, a state of Venezuela, the water supply good, and the bounded on the N. by the Caribbean climate healthy, owing to its being Sea. The prin. port is Puerto Cabello, about 3000 ft. above the sea-level. It and Valencia is the chief tn. About has broad and well-built streets. 20 m. to the S.W. of the latter place while among its notable buildings are is the small village of C., where a the cathedral, university, government buildings myseum and library. C. has been several times shaken by earthquakes, and that of 1812 de-Carabus, the typical genus of the stroyed 12,000 of the inhabitants. It

Caracci, or Carracci, the name of but others eat carrion, and some will three celebrated Italian painters who attack living snails. founded the 'eclectic' school of Caracal, a tn. of Roumania, and painting in Bologna in the 16th cen-the cap. of Romanati. Its name is detury. Their idea of the new school was rived from the Emperor Caracalla, who to combine the special excellences of all the masters of painting. A sonnet written by Agostino makes clear their ambition; they were to combine Michelangelo's power, Titian's 'truth and nature,' Correggio's 'purity of style 'and Raphael's symmetry. This movement was a reaction against the artificial mannerisms which had sprung up in the declining art of Italy; close observation of nature was to be a fundamental principle of

the eclectic painters.

Ludovico Caracci (b. 1555) was the actual founder of the school, but findnus Bassianus, son of Septimus actual founder of the school, but lind-Severus, Emperor of Rome, A.D. 211- ing that he could not carry out his 217. 'Caracalla' was merely a nick-name from his introduction of the long Gallie hooded mantle. Born 188, he accompanied his father to Britain, academy together together the 208-11. He murdered his brother, Agostino, who had prepared himself Geta, becoming sole emperor. 212. by study under Fontan and then in Amongst the friends of Geta who also Parma and Rome, was much esteemed perished was Papinian, the jurist. His as an engraver as well as a painter. reign was a series of cruelties and ex- Annibale left Bologna at the invita-tortions, and he chose bad men for tion of Cardinal Odoardo Farnese his ministers. His 'Constitutio An- who commissioned him to decorate toniana 'extended full citizenship to his palace in Rome. Here Agostino toniana 'extended full citizenship to had large in home. Here Agostino all free inhabitants of the empire, merely so that he might get money from the provinces. C. was murdered on a plundering expedition against the Parthians, at the institution of London, is a fine example of Ludo-vico's work. Agostino's masterpiece is built at Rome the Thermse Caracallæ or Antoninianæ, and the triumphal! (Bologna), while Annibale's work is well represented by 'Silenus Gather-,

Monte Cavallo.

Caraccioli, the name of one of the most ancient noble Neapolitan families, the most distinguished members of which were Gianni, Marino, Domenico, and Francesco. Gianni Caraccioli (1480-1550) was

prince of Melfi and grand seneschal of the kingdom of Naples. He was on the French side (except during a short interval) after the conquest of Naples by Charles VIII. For his gal-

Francis I. rewarded him with the

rank of marshal. Marino Caraccioli (1469-1538), a cardinal and statesman, created Duke

of Milan by Charles V. Domenico Caraccioli (1715-89), statesman and economist; ambassador successively at Turin, Paris, and London. He died as viceroy of Sicily,

Caraccioli (1748-99). Francesco Neapolitan admiral. He served in the British navy, then had command of a Neapolitan squadron. In 1796 when Naples fell into the hands of the French he entered the service of the new government, but surrendered in 1799 and was hanged on Nelson's ship.

Caractacus, or Caratacus, Celtic hero, son of Cunobelinus, king of the Trinobantes and tribes of S.E. Britain, led the resistance to Roman invaders under Claudius, A.D. 48-51. After the Romans captured Camalos dunum he retreated, but kept up the struggle till defeated in battle, 51. Betrayed by the Queen of the Bri-gantes to the Romans, C. was sent to Rome, where he apparently died. Claudius rewarded his courage by granting him his liberty. The name survives in the Welsh Caradoc. See Tacitus, Annales, vii. xii.; Histories, iii.; Dio, lx.
Caradoc, Sir John Francis, first

1798. He subsequently served in Egypt (1801), Madras (1804-7), and Portugal (1808), and was appointed governor of Gibraltar (1809), and of the Cape (1811-12).

Caradoc, Sir John Hobart, second Baron Howden (1799-1873), a British statesman and diplomatist, born at Dublin. He entered the diplomatic service at the age of twenty-five, and was wounded in the battle of Navarino three years later. Returning to

England, he was elected M.P. for Dundalk in 1830: he did not remain ing Grapes' (National Gallery).

Antonio Marziale Caracci is best known by his frieze in the palace of appointed military attaché with the Spanish army. In 1850 he was made minister plenipotentiary at Madrid.

Caradoc Formation, the upper of the two strata into which the Lower Silurian rocks are divided. The name is derived from 'Caer Caradoc' in Shropshire, which is an outcrop of the formation. The rocks are mainly sandstone, and are estimated to attain

a thickness of 2500 ft. Caradori Allan, Maria Caterina Rosalbina (1800-65), an Italian singer, born at Milan. After singing in France lant defence of Luxemburg in 1543, and Germany she came to London in 1822, appearing in The Barber of Serille. She was very popular as a concert singer; she went to Venice and sang there for a season, returning to England, where she settled down in 1830. Among the notable festivals, etc., at which she appeared may be mentioned Westminster 1834, Abbey in the Manchester festival of 1836, and the Birmingham festival of 1865. She died at Surbiton.

Caraffa, the name of a famous Neapolitan family which has produced many distinguished men, of whom the following may be mentioned :-

Oliviero (1406-1511), was made a cardinal by Pope Paul II, in 1467, and legate to Alfonso of Naples by Sixtus IV. He was also made admiral of the fleet in 1472, and captured Smyrna and Satalia from the Turks.

Gioranni Pietro (1476-1559), became Pope Paul IV. in the year 1555.

For his character and exploits see papal history

Carlo (1517-61), a nephew Giovanni Pietro, after serving under the Spaniards in the Netherlands, was made a cardinal by his uncle, who was then pope. As a result of the latter's undue favours to his nephews. war ensued with Philip of Spain, in which the C. family was victorious. When Pius IV. succeeded Paul IV. as Caradoc, Sir John Francis, first which the C. family was victorious. Baron Howden (1762-1839), a British general, son of John Cradock, Archishop of Dublin. He changed his to bring about the death of Carlo in surname to C. in 1820. He sat in the 1561. Giovanni, a brother of Carlo. Irish Parliament (1785-1800); went shared to a lesser extent in both his out with his regiment to the W. Indies brother's good and bad fortune; he (1790 and 1793-95); took part in the was imprisoned by Pius IV., after suppression of the Irish Rebellion of having been appointed commander 1798. He subsequently served in of the page of forces by Indianance. brother's good and bad fortune; he was imprisoned by Pius IV., after having been appointed commander of the papal forces by land and sea, and was executed in 1561 on a charge of of '

> cousin made a cardinal: his activities ran on literary lines, and among his labours may be mentioned the revision of the Bible. an exposition of the Canons of the Council of Trent, an edition of the Septuagint, etc.

Antonio (d. 1693), a later member

Caravaca

of the family, distinguished himself in the service of Austria, and became a field-marshal. He was made governor of Hungary in 1685, but became an object of universal execration by his cruelty in the affair of the Tekeli conspiracy, and was recalled in 1687. Later he was largely instrumental in conquering Transylvania for Austria.

Caragana, an unimportant genus of Leguminosæ native to China and Central Asia, consisting of shrubs with papilionaceous, yellow flowers. C. gerardiana is sometimes known by

the name of Tartarian furze.

Caragiale, John (b. 1852), a celebrated Roumanian author and playright, was born in the commune of Margineri. His works are very popular in Roumania, and include come-dies and novels. His comedies are of a satirical nature; the best known of them are Noplea furtunosa (A Stormy Night) and Scrissaren perduta (The Lost Letter); he has also written one drama, entitled Napasta (False Accusations). Among his novels the best is the one entitled Faclia de Pasce.

Caraglio, Giovanni Jacopo, Italian engraver, was born either at Verona or Parma, probably during the early part of the 16th century. His engravings—a large number of which are after Raphael-place him high in his profession. He also devoted a great deal of his time to

the cutting of precious stones.

Caramania, or Karamania, a region comprising most of the eastern portion of the central table-land of Asia Minor, lying mostly within the province of Konieh. It has obtained its name from the town Caraman, at the northern foot of Mt. Taurus

Carambola, or Caramba, a species of Oxalidacene known technically as Averrhoa Carambola. It is found in tropical Asia, and is cultivated on account of its acid fruit, which has a pleasant flavour and is about the size of an orange. The fruit is often called

the Coromandel gooseberry.

Caramel, the name which is given to the substance produced by the application of heat to loaf-sugar. When sugar is gradually heated over a slow fire, and stirred constantly, it loses water and other substances. At the temperature of 220° centigrade, the liquid which has been formed, becomes frothy; it is maintained for some little time at this temperature, and then poured out to cool. brittle ma

smell and .

MANUEL.

Caran d'Ache, see Porré,

Carangamite, or Corangamite, a salt water lake in Victoria, S. Australia, with an area of 76 sq. m., and a circumference of 90 m. It possesses no outlet, and is very shallow on the South. Caranx, or Horse-mackerel, a scom-

briform or mackerel-like genus of fishes of which several species occur in Europe in temperate seas. C. trachurus, the scad or British horse-mackerel, is found off our coasts in vast shoals during the spring and summer months. It also inhabits the

Mediterranean. Carapa, a genus of Meliacese, the order to which belong the trees yield ing mahogany and the falsely-named cedar-wood (Cedrela). The species are tropical and C. moluccensis inhabitmuddy swamps. C. procera and C quianensis both yield oil from the

seeds.

Carapace, the name applied to the protective covering of many animals. particularly to the arched bony plate which is characteristic of the Chelonia (e.g. tortolse), and to the shield which protects the fore parts of the Crustacer (e.g. crab).

Carapegua, an inland tn. of Para-guay, situated 37 m. S.E. of Asuncion. It has two schools and modern public buildings. The surrounding country is fertile, cotton, tobacco, sugar-cane, etc., being grown. Pop. 13,000.

Carat, or Karat (Arabic glrat, pod: Gk. Kepartor, fruit of the carob-tree), the name given to the seeds of the African tree of the genus Erythrina. These seeds, which were almost always of equal weights, were used first for weighing gold, and later for diamonds. The C., in gold, is one-twenty-fourth part of a certain weight (such as ib. or oz.) troy, as the gold is divided for the purpose of designating the amount of alloy mixed with the metal. Thus in twenty-two C. gold there are two-twenty-fourths alloy. With regard to diamonds the C. is a fixed weight.

Carate, a tn. of Italy, in the prov. of

Milano, 15 m. N. of Milan. Pop. 6800. Carausius, Marcus Aurelius Valerius, was born during the 3rd century, in what is now known as Belgium. He was given a command in the Roman army, but was suspected of trying to enrich himself by encouraging the pirates. Being sentenced to death he retired to Britain, and the The Emperor Maximian was eventually elled to recognise his command

He was assassinated in 293.

avaca, a tn. of Spain single and state of the R. Segura. It is noted etc. EM- also manufactures of woollen goods, ather, paper soap, and oil. Marble is quarried in the hilly district near by, ! and there is a stalactite cavern at

Barquilla, Pop. 15,800.

Caravaggio, a tn. and com. of Lombardy, Italy, situated on the Gera d'Adda, in the prov. of Bergamo. It is 3 m. S.E. of Treviglio, 16 m. S. of Bergamo, and 24 m. N.E. of Milan. The painters Michael Angelo Merigi and Polidoro Caldara, both of whom were named Caravaggio, were born here. The church, L'Apparizione della Madonna, is famous for its paintings, and for the pilgrimages made thither. Pop. 6600.

Caravaggio, Michael Angelo Amerighi, or Morigi (1569-1609), au Italian painter, was born at Caravaggio. He was originally a mason, and prepared plaster for frescoes. He studied painting without any tuition, and his early works were bitterly attacked by his fellow artists. He was himself passionate and somewhat of a savage disposition, with an unconquerable determination, and these characteristics influenced his pictures. painted from nature as it really is, defying all traditions and principles Many of his scenes are of a violent nature, depicting quarrels and murders, and as he only allowed the light to penetrate through a very narrow opening into his models, the shadows and high lights are strong. There are numerous pictures of C. distributed over Europe, his masterpiece being 'The Entombment of Christ,' in the Vatican. Caravaggio, Polidoro Caldara (1495-

1543), Italian painter. He was first employed to carry mortar for the artists, but Raphael noticed his ability, and he was taught to paint. After the sack of Rome he fled to Naples and then to Messina, where he amassed a large fortune. He was one of his best known pictures is 'Christ bearing the Cross.'

Caravan and Caravan Trade (Persian karwan, from kara, people, army). The name in N. Africa and the E. for the large companies of merchants, pil-grims, or others travelling together for security, especially across the Most Cs. are formed for deserts. purposes of trade, the merchants banding together to resist robbers (Bedouins, Kurds, or Tartars), and to supply provisions and water. Such precautions are needed owing to absence of settled government. good roads and inns. From the very earliest times Cs. have been the chief means for transfer of merchandise in Asia. them is Job, Isa

regions, as their powers of endurance are so great. Some Cs. have as many as 1000 camels and mules, but from 400 to 600 is a more usual number. These are harnessed in strings of abo" h other in being gaily sing ado: and bells. procession, Αn either for luck or guidance. In rocky, steep parts, mules and asses are employed for burdens. Heavy Cs. are those in which the camels have a load of 500 or 600 lbs., going about 18 to 20 m. a day; in light Cs. they only have half that weight, and go about 22 to 25 m. a day. The ordinary seasons for trade Cs. are spring, early summer, and later autumn; Friday being the favourite day for the start. Each day's march has two stages: from about 3 to 10 a.m., and again from 2 to 7 p.m. An average of 23 to 28 m. is accomplished each day. There are often halts of a few days, arranged (together with the exact line of route) by common consent, unless a guide or military officer has been engaged to settle all such points. The five to settle all such points. stated daily prayers of the Moham-medans are made to coincide as far Mohamas possible with the necessary halts. Many of the company ride, if possible on horseback. All are armed, and they sometimes have a military escort. The leader of the trade C. is called Karwan-Bashi, or Rais (chief). and is chosen by the merchants before starting. He acts as general manager. spokesman, and arbitrator; but in the matter of trafficking, each member of the C. acts independently. In Arabia Rikb, or Qöfila, is the equivalent of C. Other forms are carouan and carranan. The word does not occur in English before the 16th century. The trade between Tripoli and the interior of Africa, between Darfur and Egypt. between Russia and China, is mainly carried on by Cs. The old Arab traderoutes led to Egypt, Syria, and Mesopotamia; and between the 8th and 11th centuries A.D. Arab appear to have gone regularly as far as the Baltic. Many old Arabic coins have been discovered in N.W. Europe and in the British Isles. The pilgrim and in the British Isles. The pilgrim bands to Meccah should properly be called Haji, not Cs. The two chief start yearly, one from near Damascus (gathering up bands from Anatolia, Kurdistan, Mesopotamia, and Syria), Since 1908 a and one from Cairo. railway has been opened between Damascus and the Hejaz. Other smaller pilgrim Cs. are the N. African. Persian, Nubian, Indian, and Malay, and S. and E. Arabian. The leader of the Meccah Cs. is called Emir-el-Hadi largely used for transport of heavy (prince of the pilgrims). The Meccan goods, especially in arid, sandy C. from Damascus is under the protection of the Sultan of Turkey, and in dyeing. It is produced by the consists of thousands of pilgrims. The action of pitric acid on phenol and great Indian C. from Muscat has been discontinued long since. The Persians start from Bagdad; thus carrying on a most important trade. An important trade-route starts from Timbuktu, dividing later into two roads, one to Tendruf and S.W. Morocco, one to Tafilet in S.E. Morocco. There are numerous other routes, as from Trebizond to Tabriz; across the deserts of Gobi (Asia) and Sahara (Africa). Horses, yaks, and sheep are used as well as camels and mules in different parts; also dogs, reindeer, and llamas.

A fleet of Turkish or Russian ships (especially of merchant-vessels and their convoy) is termed a C. name is also applied to a covered cart. now usually a house on wheels, as a gipsy C. See Burton The Pilgrimage to Al-Medinah and Meccuh, 1855; Nachtigal, Sahara und Sudan, 1879-89; Junker, Travels in Africa, 1896.

Caravansary, a kind of unfurnished inn where the caravans are put up in Eastern countries. They are large buildings quadrangular with spacious court, often containing well in the middle. There are public and private Cs., the former of which

are in some cases free.

Caravellas, a seaport of Brazil, in the prov. of Espirity Santo. It is a centre of the whale fishery of the Abrolhos islands. Pop. 5000.

Caraways, the ripe fruits of Carum Carui, or Carvi, a plant of the order Umbelliferæ. The seeds, as they are vulgarly called, are the furrowed halves of the fruit, and their aromatic flavour makes them valuable to confectioners. They are also used as a carminative in medicine, liqueur is distilled from them, and the roots themselves are sometimes eaten in Europe,

Auguste (1813-74), a Saumur. He Carayon, Auguste (1813-74), French author, born at Saumur. joined the Society of Jesus, and from that time almost all his work was in connection with the society. He wrote many books and carried on researches concerning the Jesuits which made his name famous. He edited the History of the Jesuits of Paris, by Père Garaise, and died at Poitiers. Among his numerous works may be mentioned: Inedited Documents concerning the Company of Jesus, 1863-75: Banishment of Jesuits from Louisiana, 1855; Historical Notes on Jesuits and the Parliament of the Eighteenth Century, 1867, etc.

Carballo, a vil. of Spain, in the prov. of Corunna, 22 m. S.W. of that tn. It is noted for its baths and mineral

action of nitric acid on phenol and other organic substances. By using a mordant of alum or cream of tartar, a solution of picric acid becomes a permanent yellow dye; and with an indigo mordant various shades of green are produced. See Picric Acid.

Carberry Hill, situated in Mid-lothian, Scotland, 7 m. S.E. of Edin-burgh. It is noted in history as the place where Mary Queen of Scots surrendered to the confederate nobles

in 1567. Carbides, compounds of carbon with other elements. Many were unknown until they were prepared by H. Moissan in the electric furnace. The principal C. are those of calcium, manganese, iron, aluminium, chromium, barium, strontium, lithium, etc. Of these the most important commercially is calcium C., much in demand for the production of acetylene, which is generated by bringing water and calcium C. into contact (see ACETYLENE). Acetylene may be obtained in a similar way from lithium C. Other C., as aluminium and beryllium C., give methane, while manganese C. gives methane mixed with hydrogen. Silicon C. is a stable compound prepared by heating sand and coke in the electric arc; or account of its hardness it is used as a substitute for emery.

Carbine, or Carabine (from Fr. carabine, Med. Lat. calabra, an engine of war), fire arm carried by horse-soldiers, usually attached to the saddle. It is constructed on the ordinary principle, but is shorter, smaller, and so

less effective.

Carbo, Caius Papirius, a Roman orator, a colleague of Tiberius Gracchus, and one of the chiefs of the Democratic party. He was suspected of the death of Scipio Æmilianus. On being made consul after the death of Caius Gracchus, he seemed to change his opinions in favour of the aristocracy. He was now execrated by the populace, and on being accused by Crassus, the tribune, of peculation, he committed suicide in 119 B.C.

Carbo, Cnaius Papirius, a Roman general who was born about 130 B.C. He was one of the chiefs of the party of Marius, and was three times elected consul. When beaten by Pompey he consul. When beaten by Pompey he fled to Africa, but was stopped and killed in 82 B.C. After his death Pompey had his head cut off and sent it to Sulla.

Carbohydrogens, more commonly called hydrocarbons, are compounds of carbon and hydrogen. They are most conveniently arranged in series, springs. Pop. 13,555.
Carbazotic Acid (C,H,(NO,)OH), atoms of carbon and hydrogen. Thus or Pieric Acid, a crystalline acid used the parafins have the general formula atoms of carbon and hydrogen. Thus formula CnH2n, as ethylene C2H4, etc.; the acetylene series have the general formula C_nH_{2n-2} , as acetylene, C_2H_2 , etc.; and there are other more complex series of which benzene, C.H., is

the best known member. Carbolic Acid, Phenol, or Hydroxy-benzene (C.H.OH), a coal-tar product much used as an antiseptic. It was discovered in coal-tar by Runge in 1834, and has since been observed in the urine of certain animals. commercial purposes, C. A. is pre-pared from the fraction of coal-tar distillate which comes over between 150° and 200° C. This distillate is treated with caustic soda which dissolves it out together with other substances. Water is then added which precipitates some of the hydrocarbons: the solution is afterwards treated with sulphuric acid, when the phenols form an oily layer on top of the liquid. The layer is carefully removed and subjected to fractional distillation to separate the phenols. C. A. has a peculiar and characteristic odour, a burning taste, is poisonous, and has antiseptic properties. It crystallises in colourless rhombic prisms which melt at 43° C., and have a boiling-point of 182°; its specific gravity at the melting point is about 1.066. At ordinary temperatures it is mode-rately soluble in water, but it dissolves readily in alcohol, ether, glacial acetic acid, and glycerol. Upon exposure to light and air it deliquesces and assumes a red colour, but its other properties are apparently un-affected. Tests for C. A. are provided by the fact that it gives a violet colour with ferric chloride, and produces a white precipitate with bromine water. C. A. decomposes at a very high temperature, benzene, toluene, naphthalene, and other substances being formed. Though called an acid, it is neutral to the usual tests, but forms salts called carbolates or phenates. The carbolates of the aikali metals may be prepared by dissolving the acid in a solution of elicilic constic with the evolution of alkali caustic with the exclusion of air. Phenol forms many substitution products, chlorine and readily forming chlorphenols and beamnhenols. It is used commercially for the manufacture of artificial colouring matters, such as picrie acid.

Therapeutics, etc.—C. A. is a general germicide, and is used to exterminate such fungoid growths as ringworm. When used in concentrated form it acts at first as a caustic, and afterproduces local anæsthesia, which is maintained for some hours, of C.

CnH_{in+}; as methane or marsh gas It is readily absorbed by the un-CH₄, ethane C₂H₄, etc.; the olefines broken skin, and may be used to treat or ethylene series have the general a collection of septic matter near the skin surface, but its absorption in this way may produce symptoms of poisoning. A little cotton-wool soaked in C. A. often relieves toothache caused by decayed teeth, Internally, C. A. is taken in doses of 1 to 2 grains, and is useful in fermentation in the stomach, and as an intestinal antisentic; it is occasionally used to stop vomiting.

Poisoning. — Phenol is a nerve poison, and, in concentrated form, a strong caustic. A quantity of 15 grains provides a very dangerous dose. The effects of the caustic may at once be seen at the mouth, tongue, and throat. As a nerve poison, it produces paralysis of the respiratory centres, the breathing becomes shallow, a condition of collapse sets in the patient is cold and clammy, and a state of coma precedes death. Diagnosis of poisoning by absorption is made by observing the condition of the urine. which assumes a characteristic dark green colour. Treatment includes getting rid of the poison remaining in the stomach, administering an antidote and treating collapse. The removal of the poison must be carefully effected by means of the soft siphon, as the use of the stomach pump is impossible on account of the prob-ably injured state of the stomach lining. The usual antidote is sodium sulphate introduced either by the mouth or by intravenous injection; the action probably is that the phenol converted into sodium sulphocarbolate, which is innocuous. lapse should be treated by administering brandy, by placing hot water bottles at the extremities, and by generally preserving the warmth of the body by the use of hot blankets.

Carbon, in chemistry, a non-metallic element of widespread distribution. It occurs in nature in practically a pure state as diamond, and a somewhat less pure state as graphite or plumbago. In combination with oxygen, it occurs in the atmosphere to a small extent, and in combination with metals, notably calcium, forms many important rocks. More important still, however, is its occur-rence in every form of animal and vegetable life, and so many different compounds of C. are met with in living tissues that the study of them is set apart as a special section of the science of chemistry under the title of organic chemistry, which might therefore be rendered chemistry of the C. compounds. C. as the chief consti-

properties of those substances con-link. Gas C. is a particularly hard sidered as fuel. Thus dry wood con-land dense form obtained in the distains about 50 per cent. of C; peat, tillation of coal in gas-works, apart or vegetable matter partly decread, from the coal in gas-works, apart over the coal in gas-works. contains about 58 per cent., fure be disregarded; brown a thre be disregarded; orown tains about 66 per cent., excluding rods for electric are lights. There are moisture; bituminous coal contains various forms of charcoal obtained by about 84 per cent., and anthracite the slow combustion of animal or contains sometimes 95 per cent of C. vegetable matter. Wood charcoal is The extent to which the plant the contains wood in a surpling wood in a The extent to which the plan' - ... has been allowed to part sascous constituents therefor mines the percentage of C., and the the forests of Europe from time im-heating power of a coal-like fuel and memorial, consists of collecting

large deposits of these substances exist throughout the world. Diamond is a crystalline form of C. It is usually found as octahedra or cubes, but many modifications exist. It was first discovered to be a form of C. by Lavoisier, who succeed a the substance in a the products of

manufacture of writing-pencils is now obtained in this way. It is a darklustre, and possesses a peculiarly kreasy softness, so that it leaves a grey or black mineral with a metallic mark on anything with which it comes fairly forcibly in contact. Besides its use for the manufacture of writingpencils, it is commercially important as a dry lubricant. Amorphous C. is obtained by burning many kinds of animal and vegetable tissue in a limited supply of air. C. does not readily enter into chemical composition except at high temperatures, and it is only when exidation is rapid that C. burns to form C. dioxide. Lampblack is a form of C. prepared by burning tar, resin, or turpentine, and condensing the products of combustion. The C. thus collected is a densely black substance with impurities of hydrocarbons. It may be purified by heating in closed vessels, when a fairly pure form is obtained. Its most interest in the control of the combustions of portant property is that it does not reflect light from any angle, and it is therefore in demand as a black pigment and as a constituent of printers'

of electricity, anufacture of

burning wood in of air. The old method

the charcoal burners of the extent of freedom from smoke, branches of suitable length and thickness into heaps, which are closely packed in and then covered over with The wood is ignited at the top and sides and allowed slowly to burn towards the centre, the charcoal-burner inspecting the heap from time to time, to see that the combustion is regulated by a proper adjustment of the scanty air-holes at the base. Charcoal thus prepared is used as a fuel and as a reducing agent in smeltes. Animal charcoal, or bone

is obtained by distilling boneretorts. It is usually very imdioxide only. The diamond owes its pure, but possesses considerable deconomic value to its excessive hardness and great brilliance. It is found is used for the purpose of decolourischiefly in S. Africa and S. America. in graw sugar. Charcal varies in its fraphile, blacklead, or plumbago, is a mineral occurring in beds or plates amongst the older crystalline rocks, prepared and the mode of prepara-

It has the power of absorbing eing capable of absorbing such ties that they must be in a compression analogous to the

of the law material for the inquia state. It is to this property that charcoal owes its value as a deodoriser, its affinity for ammonia in particular being very marked practice of eating charcoal in form of charcoal biscuits is based on the expectation that gases causing pain and inconvenience in the stomach and intestines will be thus absorbed. Charcoal is used as a reducing agent in the laboratory to separate a metal from its ore. Charcoal, as has been said, is not active at low temperatures but at high temperatures it combines readily with the oxygen in an oxide giving off C. dioxide, while the metal is extracted pure. Before the wide-spread use of coal in iron-furnaces, wood charcoal was commonly used to reduce the ore, and the process is still used where coal is scarce, as in Sweden. The compounds of C are numerous and important. With oxygen two compounds are formed. dioxide (CO2) is produced whenever C. is burned in excess of air or oxygen. It is a colourless gas, heavier than air, does not support combustion, and is soluble in water, the solution having an acid reaction (see Carronic Acid). sufficient excess of air, C. monoxide (CO) is produced, as in blast furnace operations, etc. It is a colourless, tasteless gas of a poisonous nature (see Carbonic Oxide). C. dioxide C. dioxide in association with water acts as a dibasic acid, which forms two series of salts with metals, the carbonates and bicarbonates (see CARBONATES). C. is also capable of combining with metals directly in the electric furnace. giving rise to compounds called carbides (q.v.). It also combines directly with hydrogen when an electric arc is established between C. poles in an atmosphere of hydrogen. The resulting product is acetylene (q.v.). C. unites with fluorine to produce C. tetra-fluoride (CF₄). When heated in sulphur vapour, C. unites with sulphur to form carbon, bi- or di-sulphide (CS). a very volatile, colourless liquid, boiling at 46° C, and giving off an inflammable vapour. It has remarkable solvent powers, dissolving fats, india-rubber, sulphur, iodine, and phosphorus, which are otherwise difficult to obtain in solution. C. oxysulphide (COS) is a colourless, odourless, inflammable gas, produced when C. monoxide and sulphur vapour are passed through a tube at a moderate heat. Carbonul chloride (COCl₂) is a colourless, heavy gas with a pungent smell, prepared by the action of sunlight on C. monoxide and chlorine. C. and hydrogen unite in many different proportions, giving rise to bodies which are collectively known as hydrocarbons, or carbohydrogens (q.v.). The many other compounds of C. with oxygen, hydrogen, and nitrogen which are associated with forms of living matter are usually classed as organic compounds: their number seems to be without limit, for not only are new compounds iso-lated day by day throught the efforts of chemical-research workers. hitherto unknown substances being synthesised in the laboratory.

See Alcohols, Aldehydes, Fats,
STARCH, Soap, etc.

Carbonado (Sp. word meaning coal),

one of the forms of carbon. It is black in colour, is found in pieces as large as the ball of the thumb, and is sometimes used for the boring of rocks.

Carbonara, a tn. of Italy in the prov. of, and 4 m. from the tn. of,

Bari.

ri. Pop. 5000. Carbonari (charcoal burners), the members of an Italian political secret society, which appears to have been formed in the first instance by Neapolitan republicans during the reign of Joachim (Murat). It had for its objects the expulsion of strangers from the throne of the country and the establishment of democracy. Its

When wood or coal is burnt without ritual was taken from the trade which gave it its name: thus a lodge of the society was a baracca, or hut, ordinary meeting was called a vendita, or pale; an important meeting an alta vendita. Mystic religious language was used to explain the aims of guage was used to explain the anns of the society, 'clearing the wood of wolves was said to be their aim,' alluding to Christ as a lamb torn by wolves. The objects of the society was at first only the expulsion of foreigners, but members of the higher degrees soon became democratic and There were

ociety, which of initiation. The C. rapidly increased in numbers. and by 1820 included many of the

most intelligent patriots in Italy.
After the suppression of the Neapolitan and Piedmontese revolutions of 1821, Carbonarism was made high treason. Meanwhile similar societies had been fc

the Italian Paris as

alienated many of the Italians, who left and joined the Young Italy

movement.

Carbonates, salts of carbonic acid. Carbon dioxide dissolves in water to form a feebly acid solution, and theretore carbon dioxide is regarded as the anhydrous (i.e. without water) form of carbonic acid, H₂CO₃, which, however, has never been isolated. The acid is dibasic, that is, it contains two atoms of replaceable hydrogen per molecule; when both atoms are replaced by a metal, the product is a C., and when one atom only is replaced, the product is an acid C., or bi-C. The monovalent alkali metals, such as sedium and notassium violations. fore carbon dioxide is regarded as the such as sodium and potassium, yield both C. and acid C. with the general formulæ MCO; and MHCO. The C. of sodium, notassium, and thallium are soluble in water, all the others are insoluble. Aluminium and chromium do not appear to yield C., and magnesium, bismuth, and copper yield basic C. If an acid be added to a C., effervescence takes place with evolu-tion of carbon dioxide, and most C. are decomposed by heat into carbon dioxide and the oxide of the metal.

Carbondale, a city of U.S.A. in the co. of Luzerne, Pennsylvania, situated on the Lackawanna R. Its principal importance lies in the fact that it is in the midst of the anthracite coal-field of the United States, and yields about 900,000 tons of coal yearly. Pop. 14,000.

Carbonear, a port of Newfoundland, situated on Conception Bay, 4 m. N.

of Harbour Grace. Pop. 3703. but

carbon dioxide CO, or C. A. gas. Carbon dioxide occurs in the atmosphere to the extent of four volumes 10,000, though in towns the amount may be larger. It occurs also in solution in river and sea-water, being carried down by rain or liberated | from decomposing carbonates in the soil. The gas is produced in large quantities in lime kilns, being formed by the decomposition of the chalk or limestone from which the chalk is made. Fermentation and putrefaction give rise to carbon dioxide, which may exert considerable pressure if the processes are carried out in closed vessels. In the laboratory, carbon dioxide is prepared by treat-

when onates yield the gas. C. A. is a colourless gas about 1.5 as heavy as air, moderately soluble in water; it liquefies at 0°C. under a pressure of thirty-six atmospheres. It is used in the preparation of aerated waters, quantities being dissolved in water under pressure to produce the sparkling effect when the pressure is at length removed by releasing the stopper of the bottle. Carbon dioxide plays an important part in the making of bread, being generated in the dough by the use of yeast in order to separates the two great systems and obtain the porous condition wh

generally be

makes bread light and palatable. the vital processes of animals plants, carbon dioxide is a necess factor, for it is oxidation of waste

occurring in the

of material in the animal economy, and it forms the raw material from which plants obtain the carbon necessary to build up their tissues. plants absorb carbon dioxide and give out oxygen, while animals breathe in air and expel air containing a larger proportion of carbon dioxide. Unless there is adequate ventilation in a room the increasing proportion of carbon dioxide interferes with the proper supply of oxygen to the lungs, and symptoms of suffocation may ultimately appear.

Carbonic Oxide, or Carbon Monoxide (CO), a gas formed during combustion when the excess of oxygen is not sufficiently large. It is found in chimney gases, in the gases of blast furnaces, and in the vapours arising from volcanoes. It is prepared in the laboratory by the action of con-centrated sulphuric acid on oxalic acid, an equal volume of carbon dioxide also being produced. Carbon Carbon

dioxide; this flame may sometimes be observed near the top of a coal fire when there is incomplete combustion in the lower part of the grate. or when the carbon dioxide first formed is turned into carbon monoxide by passing over a heated mass of coal. CO is a very poisonous gas, and is particularly dangerous in coal mines, where it is sometimes formed in small quantities.

Carboniferous System, a series of stratified rocks which contains the great coal-bearing strata of economic The system includes much value. more than the coal measures, and, on the other hand, coal is found in strata unconnected with the system. The C. S. lies above the Devonian or Old Red Permian comprises in lower C. which lit above that the coal measures. carboniferous limestone may usually be divided into lower, middle, and upper rocks: the lower consists of limestone shales in the S. and centre of England, and calciferous sandstone in Scotland; the middle consists mainly of mountain limestone; and the upper of black shales with thin limestones. The millstone grit

> and coal seams: the principal coal seams: I thin limestones and

clays. In

ickness is '; this is because the land was at the C. period covered by shallow water and received a considerable amount of sediment from the land to the north, while the S. and E. of England lay under some depth of clear water. The thickness of all parts of the system therefore varies considerably with the locality. With reference to the coal measures, these are found to a thickness of 8000 ft. in S. Wales, 6000 in Lancashire, 3000 in the midlands, Durham, and Northumberland, and about 2000 in Scotland. In Ireland the system is represented chiefly by mountain limestone. In Europe the C. rocks appear in Belgium, in France near Ste Etienne, in Westphalia, Saxony, and Bohemia. In Russia the system extends northward as far as Spitzbergen, and is continued through Southern Siberia monoxide is a colourless, odourless into China. C. rocks are also known gas slightly lighter than air. It is in Australasia, N. Africa and S. slightly soluble in water and burns America, while in the United States with a pale blue flame to form carbon the system is widespread, attaining

beds of greatest economic importance ancients because of its appearance of being in Pennsylvania and the surrounding districts. In the C. period as represented by rocks in the United Kingdom, the sedimentation is of two kinds: marine and continental or lagoonal. In the marine strata the fossils include crinoids, corals, foraminifera and brachiopods. Remains of many fish are found, including sharks similar to a large boil. It is caused by with piercing teeth and others with poorness of blood or similar cause, teeth adapted for crushing crusta- and accompanied by derangement of ceans, etc. In the continental strata are found six great groups of plants, generally on the shoulder, nape of the including the club mosses, horsetails, gigantic ferns, etc. Some of the tree ferns have been so well preserved that the minutest details of their structure can be studied, and some smaller ferns have been identified with still living species. The vegetation appears to have been luxuriant and abundant, and there is evidence that the climate was, if not hot, at least mild and moist; though the beds of coal found in Arctic regions and in the great Antarctic plateau seem to show that the period was exceptionally favourable to vegetation. It has been suggested that owing to continual volcanic disturbances, of which there is abundant evidence, the air was charged with a greater proportion of carbon dioxide than it has now, so that vegetation was proof the nclude l fresh-w occacockroaches, locusts, bees, etc., and in the later C. rocks are found large numbers of early amphibians. The economic importance of the C. system lies mainly in the coal and oil found in Britain, Belgium, Russia, Japan, and America, but many other products are in continual demand. The C. limestone yields limestone for the bleaching manufacture of lime, Dieacums powder, etc. The ironstone found in association with the coal, ores of plosive mixture by a regulated supply zinc, lead, and antimony found in the limestone, are worked. The sand for grindstones, millstones, etc. containing the petrol. This type has generally superseded by the sulphur, and sulphuric acid.

Carborundum, the commercial name for silicon carbide (SiC). manufactured by heating together in an electric furnace sand and coke. It is a black crystalline solid, with hard-ness greater than that of ruby. Its great hardness makes it invaluable as an abrasive, and leads to its use in place of emery.

Carbuncle, the name given to alman-

its greatest thickness in the East, the garnet being given that name by the a glowing coal in some varieties of light. Cut with concave surfaces it has a dark red colour, but owing to its relative softness it is not very valu- able. The best specimens are found in Eastern Asia, notably Burma and Ceylon, but it is also found in Brazil.

Carbuncle, an eruption of the skin the liver and kidneys. It appears neck, abdomen, and sometimes on the leg. It first appears as a hard red patch, and, attacking the subcutancous tissues, gives rise to great local pain and a general depression. The redness darkens into nurple, and small eruptions of matter appear on the surface of the skin, from which the liquid oozes. Simultaneously the skin is killed and comes off as a hard patch. Treatment consists in strengthening the patient with light, easily digested food and a good wine, and stimulating the secretive organs so that the system assumes its normal working order. Poultices of various kinds are used, bathing with an antiseptic wash, and occasionally incision is resorted to, to relieve the place of fluid and prevent excessive loss of skin. Rest in bed is also essential. The eruption is much more serious than an ordinary boil, and medical advice should always be taken.

Carburet, a combination of carbon with another substance. See CAR-BIDES.

Carburettor, in earlier times meant an apparatus for charging gas or air with carbon by passing it through a liquid hydro-carbon, with the object of increasing its illuminating power. The word is now used principally to describe the apparatus in oil engines and for grinustones, infisiones, etc. containing and posterior of the fire-clay and terra-cotta clay often been generally superseded by the occur, and the various shales are spray C, which consists of a floatoccur, and the various shales are spray C., which consists of a float-treated for the extraction of oil, feed chamber, and a mixing or spray-For fuller details of ing chamber. mechanism, formulæ, etc., see Motor Cars and Oil Engines.

Carcagente, a tn. of Spain in the prov. of Valencia, 25 m. S.S.W. of that town. Great quantities of rice are grown, and there is a trade in fruits, grain, and slik-

Carcano, Giulio (1812-84), an Italian poet and novelist, born at Milan. His first work was Angiola Maria, pubdine, a variety of garnet, the precious lished in 1839, which marks the beginning of the domestic novel in Italian the Incarnation, 1873; and A Short literature. He then, with most other Sermon on War, 1876.
Italian authors, took part in the fight Cardamine, a near relative to the for the freedom and unification of Italy, and was obliged to go into exile. On his return he became in 1859 professor at the academy of Milan and was afterwards appointed senator. He wrote numerous works, best known among which are his

He also rendered great service to Italian literature by his translation of the Shakespearian plays (1874-82). His works were published in Milan in a complete edition after his death in 10 vols. (1892-6).

Carcar, a tn. near the E. coast, on the island of Cebu, belonging to the Philippines. Sugar is largely culti-vated. Pop. 30,000.

Carcass (from Old Fr. carcois, a quiver), a shell or hollow ball of iron, filled with an extremely inflammable compound of saltpetre, sulphur, resin, etc., usually fired from a mor-There were vents in the side through which the flame escaped.

Carcassone, the ancient Carcaso, cap. of the dept. of Auge, France, on the R. Aude and the Canal du Midi. It has an old castle (11th century) and the cathedral of St. Nazaire (11th century). It has important manufacutres of hosiery, linen, paper, soap,

etc. Pop. 30,720.

Carcharodon, a genus of the Lamnide or mackerel shark family. It includes the largest living shark, 36 ft. in length, which occurs from the Mediterranean to Australia. Technically it is known as C. rondeletii, popularly as the man-eater or great blue shark.

Carchemish, an ancient city on the W. bank of the Euphrates, N.E. of the modern Aleppo, was northern capital of the Hittites (2 Chron. xxxv. 20). It is identified with the ruined

Jerablus (Hierapolis). Carcinoma, see CANCER.

Cardale, John Bate (1802-77), a writer upon religious subjects and one of the founders (1835) of the Catholic magnæ sive de regulis algebraicis Liber Apostolic Church, of whic of the founders (1835) of the Catholic magnæ sive de regillus digeoratics Liber Apostolic Church, of whic tant works are: A Manua nus, 1848; The Doctrine of the Eucharist, 1856 (2nd ed. 1876): The Cardboard, a thick board made by Unlawfulness of Marringa with a Deceased Wife's Sister, 1859: Notes on Revelations, 1860: The Certainty of Final Judgment, 1864: The Fourproduced by pasting together several leaves of paper pulp in the process of manufold Ministry, 1871; The Doctrine of sheets of paper. Bristol board is a

wallflower, is a genus of Cruciferae which is widely distributed. The species are usually smooth herbs, with stalked, entire, lobed, or pinnately cut leaves, and racemes of white or red flowers. The commonest British specimen is C. pratensis, which hears large lilac flowers and is called by a number of popular names. From its bitter taste it is called bittercress, from its appearance in the spring it is known as the cuckooflower, and from its covering the meadows as though linen were bleaching, lady-smock. The flowers yield a bitter, volatile oil of slight medicinal use, and the plants reproduce vegetatively to a great extent. C. bulbifera reproduces by axillary bulbils, C. chenopodiifolia has two kinds of fruit, and C. impatiens has an explosive fruit.

Cardamom Hills, in the Madras Presidency, Travancore state, India; altitude 2000 to 4000 ft.

Cardamoms are furnished by several species of Zingiberaceæ from the genera Amomum and Elettaria. cardamomum is an Indian plant in which the rhizome produces leafless shoots, and these bear the fruit which. when ripe, yield the spice C. In the species of Amomum the same thing occurs: A. Cardamomum is a native of Sumatra, A. angustifolium of Madagascar, the one producing small, the other large C. Grains of Paradise are the fruits of A. granum Paradisi,

and are an inferior quality of C. Cardan, Jerome (1501-76), Italian mathematician, was born at Pavia, and studied at the university of Padua, where he took his doctor of medicine degree. As the medical profession did not prove lucrative enough for him, he succeeded in obtaining the chair of mathematics at Milan in 1534. afterwards continued the practice of medicine at Pavia and at Bologna till While there he studied as-1570. trology, and pretended to cast the horoscope of Christ, for which he was imprisoned. After leaving Bologna he went to Rome, where he died. He wrote, among many works, Arlis

drawings. Strawboard is a coarse proclow board made from straw pulp. means of the Taff and Rhymney Cardenal. Pierre (d. 1306), a Proceeding troubadour, who flourished at the end of the 12th and beginning S. Wales line of the Great-Western of the cathedral of Puy de Velay, his native town, and his songs consist seventh Earl (1797-1868), born at principally of sirvientes, a name given Hambledon in Hampshire, and served to the satirical songs of the troubating the Crimea, during which came to the satirical songs of the trouba-dours, dealing with the vices of the paign he led the famous charge of the nobility and the clergy. The sir-Light Brigade at Balaclava (1854). vientes of Cardenal are extremely Afterwards inspector-general of caforceful. He also supported the Albi- valry (1955-60). genses against the crusade of the Catholics. His songs are to be found in Mahn's Gedichte der Troubadours (1856-73).

N. coast of Cuba, 75 m. E. of Havana, in the prov. of Matanzas. It is one of island. It has a good harbour and is; well served by railways. Pop. 24,000. Cardi, Ludovico, see CIGOLI.

Cardia, the name given to the opening in the upper part of the stomach Welsh counties, among them being by which the assophagus enters. As Cardiganshire. its name indicates, it is in close

proximity to the heart. Cardiff (Welsh Caer Taff, or Caerdydd, according to some authorities) belong to the Marquis of Bute, are five in number, among them Bute Docks, and the Glamorganshire Canal Basin. C. is an extremely important commercial centre, and has a very large coal and iron trade, being connected with the S. Wales coalfield and the important districts of Aberdare and Merthyr Tydvil: it is in fact one of the largest ports in the world for exporting coal. It exports also large quantities of iron, manufactured been partially restored by its present owner, the Marquis of Bute. C. also played some part in the history of England during the time of the Civil There are several important buildings in town, among them a

finer kind of C. used for pen-and-ink with the S. Wales coalfield and the drawings. Strawboard is a coarse important manufacturing centres by

Cardigan and Cardigan Bay. C. is a seaport tn., a municipal bor. and the co. tn. of Cardiganshire in S. Wales. It stands on the r. b. of the R. Teifi, Cardenas, a busy scaport on the about 5 m. inland from S. George's Channel. It contains the ruins of a castle supposed to have been built in the chief sugar exporting towns of the the 12th century. Pop. about 3500. Island. It has a good harbour and is C. B. is a wide inlet of St. George's Channel stretching from Braich-y-Pwll in the N. to Strumble Head in the S. It washes the shores of five

Cardiganshire is a co. in S. Wales washed on the W. by Cardigan Bay. It extends from the mouth of the Dovey to the mouth of the Teifi, and is a seaport tn. and the co. tn. of has an area of about 690 sq. m. It is Glamorganshire. It stands on the l. b. bounded on the S. by Pembroke and of the R. Taff, quite close to its mouth. Carnaryon, and on the E. by Breckbounded on the S. by Pembroke and Carnaryon, and on the E. by Breck-nock, Radnor, and Montgomeryshire. The surface of the county is com-posed of Cambrian and Silurian rocks, of the R. Taff, quite close to its mouth.

C. has made greater and more rapid progress than perhaps any other town in the United Kingdom, and this was begun by the opening of its first dock, and the interior is very mountainous. In 1839. The docks and basins, which Its culminating point, Plinthumon. 2400 ft. high, lies in the N.E. of the county. The most important rivers of Cardiganshire are the Teifl, the Rheidol, with the Rheidol Falls spanned by the Devil's Bridge, the Istwith, the Aeron, and the Towy. though the Teifi is the only one of any real importance, and this does not belong exclusively to the county. The chief towns are Cardigan (the county town), Aberystwith, and Aberayron—on the coast—and Trecaron and Lampeter in the valley of the large quantities of iron, manufactured a yron—on the coast—and Tregaron iron, and steel goods, and carries on a and Lampeter in the valley of the considerable shipbuilding trade. The town itself is a very old one, and contains the ruins of a Norman Castle of the lith century, in which Robert, stock. Gloves and flannels are among Duke of Normandy, the eldest son of William the Conqueror, remained for twenty-eight years. This castle has scattered over the county, traces of early. British carries are also lead, while the constraints of the coast and flannels are among its chief manufactured. scattered over the county, traces of early British camps, and also of Roman roads and military stations. besides inscribed stones. The ruins of Strata Florida Abbey, to the S.E. of Aberystwith, are also of interest. Most of the old customs of the county museum, public library, and various have died out, though that of bidding, technical schools. It is also the seat or sending for presents for betrothed of the University College of S. Wales people, still survives in some parts and Monmouthshire. C. is connected The principal railways are: The

Cambrian. which gives access to Aberystwith, and the Manchester and Milford, which runs S. from Aberystwith to Pencader, and belongs now to the Great Western Railway. C. sends one member to parliament. Pop.

about 60,000. Cardinal (principal, from Lat. cardo, hinge), title of the highest dignitary, next to the pope, of the Church of Rome. The word is still used adjectivally, meaning pre-eminent. Originally of more general application, the title was later reserved especially for members of the Sacred College at Rome (1568, by Pius V.). The pope is not obliged to consult them, but usually does, and they form his council or senate. They are all appointed by the pope alone. As early as the 4th century priests permanently ruling parish churches in Rome were called 'C. priests.' There were also 'C. deacons,' who administered the charities of a particular 'region' of the city, and 'C. bishops' in charge of the suburban sees of Rome (Porto and Santa Rufina, Sabina, Albano, Frascati (Tusculum), Palestrina, Ostia, and Velletri). Hence the title was always given to one on whom ecclesi-astical affairs' hinged,' but the three bodies did not form the one Sacred College till the 12th century. The Cs. are the chief members of the twentyone 'sacred congregations' (standing ecclesiastical committees) of the ecclesiastical committees) of the papal government, such as Holy Office, Rites, Index, Studies, Propa-gation of the Faith. They meet in consistory consistory, usually with the pope as president. They are most prominent on the pope's death, as they elect his successor, usually one of their own number, this being a special duty of the Sacred College. Pope Sixtus V. in 1586 fixed the number of Cs. at seventy (six bishops, fifty priests, fourteen deacons). The numbers always varied greatly before, and may still do so, but the number of C. bishops remains six. The majority are of Italian birth and live in Rome, except the 'priests.' Those of foreign birth are known as 'protectors.' The first C. bishop (of Ostia) is dean of the Sacred College, and has the right of consecrating the pope, if he be not already a bishop at the time. The first C. deacon may proclaim and crown the new pope. The 'Camerlengo,' who rules the Church during a name! The conservation of the control of the papal vacancy, is a C. Cs. have the title 'Most Eminent Prince' (Eminantial Prince) entissimo Signore). Among Englishspeaking Cs. are the archbishops of Sydney (New South Wales), Balti-more (U.S.A.), Westminster (Lon-don) and J. A.) don), and Armagh (Ireland). Cs. enjoy an income out of the papal tism and the infectious fevers; chronic treasury. They are often sent as endocarditis is usually associated

papal representatives on delicate missions, as 'legati a latere.' wear a distinctive scarlet dress and red cap (biretta), given them by the pope. A red hat is also given them in a public consistory, but they do not wear it, and they receive the C.'s ring from the pope. Consult Thomassiu, Vetus et nova discipl: Phillips, Kirchenrecht, vi.; De Luca, Relatio curiæ romanæ; and Ency. Brit. Cardinal-bird, or Redbird, is the

popular name of species of Cardinglis of the passeriform Fringillidee, or finch of the passettern and the family. The birds are very sweet singers which inhabit N. and S. America, and are often kept in captivity. The general colour of the male is red with a bright red crest and black forehead and throat.

Cardinal Points. See COMPASS. Mariners

Cardinal Virtues, The C. V. recognised by the ancients were Justice. Prudence, Temperance, and Fortitude, and were so named because all other forms of virtue were regarded as hingeing or turning upon them (Lat. cardo, a hinge). Such classification can be traced back to the time of Socrates. In the Catholic Church these virtues were classified as moral virtues in contradistinction to the theological virtues, Faith, Hope, and Charity.

Cardinal von Widdern, Georg, a German writer upon military sub-jects, born at Wollstein in Posen in 1841, and took part in the wars against Austria (1866) and France (1870-1): he was afterwards appointed professor at the military academy at Neisse in 1877, and subsequently at Metz in 1881, from which post he retired in 1890. His principal works are: Der Rhein und die Rheinfeldzüge, 1869-70; Die Russischen Kavalleriedivisionen und die Armeeoperationen im Balkanfeldzug, 1877-8 (1878); Die Infanterie im Gefecht und im kleinen Kriege, 1888 (2nd ed.); Das Nachlgefecht im Feld und Festungskrieg, 1890 (2nd ed.); Das Gefecht an Flussübergang, 1891; Handbuch für Truppenführung, 1891 (4th ed.).

Carding, a process for combing the fibres of wool, cotton, etc. This is done to remove all impurities, and to separate the imperfect from the perfect fibres, and so prepare the latter for spinning.

Carditis, inflammation of the heart. The term is now used as a synonym for endocarditis, or inflammation of the endocardium—the serous mem-brane lining the interior of the heart. The most frequent causes of the acute form of the disease are rheumawith general arterio-sclerosis. carditis is inflammation of the peri- rals and 22 emblematic C. cardium, the membranous sac en-veloping the heart. The causes are rheumatism. extension of inflammation from neighbouring parts.

of that place. In the vicinity, to the S.W. of the town, is a hill composed of rock salt, some 500 ft. high, and 3 m. in circumference. It is worked like a mine, and the supply of salt obtained

seems inexhaustible. Pop. 4000. Cardoon, or Cynara cardunculus, a plant belonging to the Composite, closely related to C. Scolymus, the articloke. The C. is edible, but it is the thick fleshy stalks and the ribs of the leaves which are eaten; they are cultivated and used much after the manner of celery, and come into season by the middle of November. Originally a native of Spain, it now flourishes in the Pampas, having been introduced into South America for cultivation.

Cardross, a par. and vil. of Scotland in the co. of Dumbartonshire, situated on the Firth of Clyde, 3½ m. N.W. of Dumbarton. Robert Bruce died in Cardross Castle in 1329. Tobias Tobias Smollett, the novelist (1721-71), was born at Dalquhurn House, and a monument. 60 ft. high, which bears an inscription in Latin, written by Professor George Stewart and John Ramsay and corrected by Dr. Johnson, commemorates the fact. Pop.

of parish, 11,400.

Cards, Playing. The origin of P. C. is uncertain. It was long held that they were invented to amuse France's insane king, Charles VI. A reference is found in the registers of the Chambre des Comptes in 1392 to an item ' for painting three packs of cards in gold and different colours,' but no mention is made of invention. It has been asserted that they were introduced into Spain by the Arabs, who used them originally for purposes of divination, but this theory is too ill-sup-ported to receive credence. Leaving undecided the question of how C. reached Europe, it appears equally hard to discover in which European country they first made their appear-They were known in Belgium ance.

Peri-| century consisted of 78 C., 56 numenumerals were of 4 suits, each consistheart. The causes are ing of 4 court C., king, queen, cheva-Bright's disease, and lier, and valet, and 10 C. numbered flammation from neigh-, appear to have survived from still Cardona, a tn. of Spain in the prov. older times, when they were used for of Barcelona, and 45 m. N.W. by N. divination, and were subsequently combined with the numeral C. Such a pack was called a pack of tarots, probably from being taroté, or marked with diagonal crossings on the back. The emblematic C. were of higher value than the others, and were called atulti, alouts, or trumps. These emblematic C. however soon disappeared from use, and the pack was reduced to 52 by the suppression of one of the court C. While there have always been 4 suits of the numbered C., there has been considerable variation of the signs employed. The earliest signs, cups, money, clubs, and swords are still found in the ordinary Italian and Spanish packs. The Germans at first used hearts, bells, leaves, and acorns. In the 15th century the French adopted the present signs, spades, hearts, cluls, and diamonds. The spade is the German sign of the leaf, with the name spada of the corresponding Italian suit of swords. The club is an imitation of the German acorn, with the translated Italian name. The German heart has survived without change, while the bell has become altered to the diamond, originally of circular shape, but now square. have been subject to duty in England since the reign of James I., when the duty was 5s. per gross of packs. It has varied greatly from time to time, and in 1801 was 2s. 6d. per pack, but was gradually reduced until in 1862 it became 3d. per pack. The number of packs made is estimated at 20 millions per annum. See W. A. millions per annum. See W. A. Chatto's Facts and Speculations on the Origin and History of Playing Cards, 1848; T. Willshire's Descriptive Catalogue of Playing and other Cards in the British Museum, 1876; Taylor's History of Playing Cards, 1865. Also separate articles on the various games.

Carducci, Giosuè (1836-1907), one of the most famous of modern Italian poets, born at Val di Castello near Pictra Santa in Tuscany. He was the in 1379, while a Swiss monk, Johannes, son of a physician, and began life as a in a manuscript dated 1377, now in teacher. He spent a youth of severe the British Museum, states that the study, and was appointed in 1860 on game of C. came to Switzerland that account of his vast erudition to a proaccount of his vast erudition to a prothat they were originally used in Italy, while Dr. Willshire (Catalogue; held until his death, with the excepof Playing Cards in the Brilish tion of a short interval in 1867, when Museum, 1876) attributes to Venice he was suspended for too active a the right of parentage. The Venetian participation in the movement for the pack at the beginning of the 15th unification of Italy. In 1876, having

in scattered form and afterwards published as Juvenilia, have no intrinsic merit, but are simply modelled upon Alfleri and Manzoni. His first great Afferi and Manzoni. His first great As architect and sculptor he studied under the title of Decennalia. They deal mostly with the political events of the time and include his famous poem, the Hymn to Satan (1863), which eulogises the spirit of time and include his famous poem, the Hymn to Satan (1863), which eulogises the spirit of time are found in the district, and there are extensive forests from which

plete after 1870, when C. adopted 4000.

Hugo as his model and gave freer expression to his political views. His ecclesiastical historian, born at Black-

de las excelencias de la Pintura. See Viardot, 258; Madrazo, 366.

Carduchi, a race of people who formerly inhabited the mountainous districts of modern Kurdestan and probable ancestors of the Kurds.

Carducho, or Carducci, Bartolommeo (1560-1608), an Italian painter, hetter known by his Spanish (first) name. A pupil of Zuccaro, he helped him to paint the great cupola at Florence, and went with him to Spain, 1585.

become a supporter of the Savoy There he became painter to Philip II. dynasty, he was made member of the Italian parliament. His poetry bears much in the Escurial. He also began frescoes in the Pardo, finished by his brother (q.w.). His best work was The Descent from the Cross, in San The Cross of the Cross Felipe el Real at Madrid. Other works were and St. St.

are extensive forests, from which cedar is exported. There are sauce factories and works for tinning meat. which become more and more com- Dugong fishing is carried on. Pop.

most esteemed poems are the un-rhymed Odi Barbare (1877, 1882, and fessor of ancient history (1826-61), 1889), which, written in metres taken rector of Stoke Bruern in Northants from Horace, place him by their clo- (1828), and principal of St. Alban's quence, dignity, and impressiveness, Hall, Oxford (1831). His publications in the forefront of the great classical include an edition of Aristotle's me inconcerone of the great classical include an edition of Aristotle's writers. Though in form a classicalt, Ethics, a students' edition of the C. has been placed by some among the Italian 'naturalist' poets, on account tary Annals of the Reformed Church of his revolutionary tendencies. His of England from 1546 to 1716, 1839; complete works were issued in one History of Conferences, etc., connected vol. in 1901. See also Quarterly Retieve (Sept. 1902), article 'Italian Poets of To-day.'

Cardweig Viscourie, (1868-1838)

Carducci, Vincenzio (1568-1638), (1813-painter, brother of Bartolommeo, 86 porn at under whom and Zuccaro he studied. Liverpool and educated at Winchester Inder whom and Zuccaro he studied. Liverpool and educated at Winchester He went with his brother to Spain, and Oxford. He became a barrister in 1855, and after his death finished the 1838 and M.P. for Clitheroe in 1842. gallery of the Pardo for Philip III., Sir Robert Peel made him Secretary adopting the history of Achilles into the Treasury (1845-46). In 1847 he stead of Charles V.'s life. He painted some fifty large pictures for the Carhusians of Paular; representing thusians of Paular; representing the repeal of the navigation laws, and sense from the life of St. Iruno, and martyrdoms and miracles of the Museum contains some of these. Board of Trade (1852-5), and under Other works were: 'Battles of the Lord Palmerston became Secretary Thirty Years' War,' St. Anthony of Padua,' 'St. Jerome' (unfinished). He wrote in Castilian, 1633, Dialogos de las excelencias de la Pintura. See Duchy of Lancaster (1861), and while sceretary for the colonies (1864-6), put an end to transportation. In Gladstone's ministry he was Secretary for War(1868-74), and after the Franco-Prussian war he carried out in 1871-2 his great plan of re-organisation, abolishing the purchase of commissions, introducing the retirement of officers and the short service system. His reforms met with considerable opposition from the Duke of Cambridge, then commander-in-chief, who feared that they would destroy the

regimental espri-de-corps. He was in company with Lord Stanhope, He was Peel's literary executor, and edited his memoirs (1856-7). Raised to the peerage in 1874 as Viscount Cardwell of Ellerbeck. See Lord Cardwell at the War Office, by General Sir R. Biddulph, 1904.

Care, or Carle Sunday, the Sunday preceding Palm Sunday, so-called from the practice of eating carlings, i.e. peas roasted or fried in butter on

this day.

Care

Careening (from Lat. carina, a keel), the operation of laying a ship upon her side in order to repair her bottom

and keel.

Carème, see QUADRAGESIMA.

Carème, Marie Antoine (1784-1833),
was a celebrated French chef, born in
Paris, who became cook to Talleyrand, the French plenipotentiary. He
accompanied his employer to the
congress of Vienna and played a considerable rôle there in preparing dinners for the various representa-tives. Subsequently he became chef to the English Prince Regent (afterwards George IV.) and to the empresses of Russia and Austria. was far-famed for the artistic nature of his dishes. He wrote Les Déjeuners de l'Empereur Napoléon, La Cuisine Française, Le Maître d'Hôtel Francais, and other culinary works.

Carentan, a tn. in the dept. of Manche, arron. St. Lô, France, 25 m. W. of Bayeux. Pop. about 3000.

Carew, George (1557-1629), Earl of Totnes and Baron Carew of Clapton, studied at Oxford, and afterwards held a command in the Irish wars against the Earl of Desmond. In 1596 he led a successful expedition to Cadiz, and was afterwards appointed lord-president of Munster, where he soon reduced the rebels to submission. He wrote an account of the Irish war in his Hibernia Pacata.

Carew, John Edward (1785-1868), Irish sculptor, born at Waterford, but came to London in 1809, where he died. He produced many statues and busts and exhibited at the Royal

envoy to France, 1527 and 1532 was M.P. for Surrey, 1529; and er to Charles V., 1529-30. He w

of Exeter's conspiracy, 1539.

Carew, Sir Peter (1514-75), an English soldier, travelled largely in France and Italy. He served Philibert of Orange, 1525-30. Henry VIII. made him a gentleman of the privy chamber. C. served in the French War, 1544; was knighted, 1545; sheriff of Devonshire, 1546. He helped to crush the Devonshire rising. 1549. He opposed Mary's marriage with Philip, was imprisoned for a time, but became constable of the Tower, 1572. See Life by Hooker (Vowell); Catalogue of Carew MSS.,

1515-74. Carew, Richard (1555 - 1620)studied at Christ Church, Oxford and became sheriff of Cornwall. His Survey of Cornwall was held in high has been and repute reprinted

several times.

Carew, Thomas (c. 1598-1639), an English poet and courtier: educated at Oxford, afterwards leading a somewhat wandering life. For a time he travelled as secretary with his kinsman, Sir Dudley Carleton. He went on embassies to Venice. Turin, and to I. C. wrote

nasque, 1634, short poems and sonnets addressed to 'Celia.' His poems show Donne's influence. He formed one of the poetic circle that centred round Ben Jonson, and was a friend of Sir John Suckling. For collected works see Hazlitt, 1870; or Vincent, 1899. See Cibber, Lives of the Poets; Quarterly Review, August 1810; Retrospective Review, vi., 1822.

Carex, which belongs to the Cy-

wet and swampy grounds, in bogs, fens, and marshes, in the temperate and northern parts of the world; in Britain they are known as sedges. The flowers are diclinous, sometimes diœcious, and are devoid of perianthleaves. The male flower consists of a simple spike, the three stamens being Academy from 1830 to 1848. His best situated in the axils of glumes; the statues are 'Whittington listening to lemale flower consists of two or three the London Bells, 'The Death of superior, united carpels. The leaves Nelson at Trafalgar,' and the 'Model are stiff, with sharp or saw-like edges, Nelson at Tranagar, and the control of a Gladiator.'

Carew, Sir Nicholas, an English courtier and favourite of Henry VIII.. leaves are used in hop-grounds for related to Anne Boleyn. He attended the courtier in France, 1513, and was are placed between staves of wine-kinghted before 1517, when he became Master of the Horse, 1 in Lapland as

frostbite. He was arenaria frequents sand-dunes; executed for his share in the Marquis dioica and C. scirpoidea are diecious specimens.

Carey, Henry (c. 1690-1743), English: grave, and Geminiani; then taught and wrote musical dramas and ballad operas. C. was author of the libretto operas. C. was author of the libretto to The Dragon of Wantley (music by Lampe, 1737): he published six cantatas, 1732, and The Musical Century, 1737. His Poems on Several Occasions, 1729, were praised by Addison. His name is best remembered for the ballad Sally in Our Ally, but the present tuge is not C's but the present tune is not C.'s. C. was said to be author and composer of God save the King, but the claim was unfounded. His granddaughter was mother of Kean, the tragedian

Carey, Henry Charles (1793-1879), an American economist, born in Philadelphia and in his early life partner in his father's bookselling business. He soon became head of the largest publishing firm in the United States, but retired in 1835 to devote himself to the study of political economy. His chief works devote himself to the study of political economy. His chief works were: Principles of Political Economy (3 vols.), 1837-40: The Credit System of France, Great Britain, and the United States, 1838: The Principles of Social Science, 1859. He was in theory a zealous free trader, but wreat that a protective system was urged that a protective system was indispensable in the stage in which American industry then found itself.

Carey, James (1845-83), born in Dublin, became a member of the Fenjan conspiracy and one of the originators of the Invincibles (1881). He took part in the murder of Lord Frederick Cavendish and Mr. Thomas Burke, permanent Under Secretary for Ireland, on May 6, 1882, but tried to save himself by turning Queen's evidence. P ----

soon afterv the Cape, L Carey, M

founde

ness. Hibernice.

Carey, Sir Robert (c. 1560-1639), was the youngest son of Lord Hunsdon and served Queen Elizabeth in various capacities, finally becoming English warden of the Border Marshes. He carried the news of her death straight from the bed-side to Edinburgh in the short space of sixty hours. He was created Earl of Monmouth by Charles I. in 1626, but the title died with him. His Memoire (ed. 1808) contain an interesting record of Border history.

Carey, William (1761-1834), Baptist humorous poet and musician, reputed missionary and Oriental scholar, born son of Savile, Marquis of Halifax. He at Paulerspung in Northants. In studied music under Linnert, Rosein-1787 he became minister first at 1787 he became minister first at Moulton in Northants, and afterwards at Leicester. He was active in forming a Baptist missionary society, and was chosen in 1793 first Baptist missionary to India. He laboured arduously to spread Christianity and issued Bibles in forty different Oriental languages and dialects. also published grammars and diction-aries in Bengali, Mahratti, Sanskrit, and other languages, and edited the Râmâyana (1836). He was from 1801 to 1830 Oriental professor at Fort William College, Calcutta. See his Life by Geo. Smith (1885) (Everyman's Library).

Cargados, or Nazareth Islands, group of islands situated in the Indian Ocean. They lie N.E. of Mauritius,

and are a dependency of that island. Cargill, Donald (1619-81), Scottish Covenanter, born at Rattray, Perth-shire, was made minister of Glasgow in 1655, but deprived of his living for opposing the Restoration (1660). He fought at Bothwell Bridge (1679), became a field preacher, and took part in the Sanguhar declaration (1680). Soon afterwards he solemnly excommunicated the king and his officials at Torwood, near Stirling, for which act a large price was offered for his capture. He was soon caught and executed at Edinburgh, July

17, 1681. Cargo, see Bill. of Lading, and

FREIGHT.

Carham, in the co. of Northumberland, England. It is situated on the R. Tweed and has a station on the North Eastern Railway. Pop. c. 1500. Caria, a maritime prov. of Asia bounded by Ionia and Lydia N., the Ægean Sea on the S., dia on the E. The country is

nountainous, its chief heights over 3000 ft., while Mt. and father of Henry James C. He Latinus reaches the elevation of conducted the Freeman's Journal 4500 ft. The coast is very irregular in Dublin, 1783, and in 1784 emi- and deeply indented, being fringed grated with numerous islands, chief among which are Rhodes and Cos. Carians were originally a distinct nationality and maintained themselves in the interior against the Greeks, but were afterwards subdued by the Persians. The country was conquered by Alexander the Great. and became finally part of the

Roman Empire. It now forms part of the Turkish Empire. Cariaco, a tu. of Venezuela in S. America. It lies to the E. of Cumana. on the Gulf of Cariaco. Pop. c. 7000.

Cariama, or Dicholophus, a genus of S. American birds, resembles the secretary bird to a great extent, and it is nearer to the Gruiformes, and the family Carianidæ is now usually classed under that tribe. C. cristata, the seriema or crested screamer, is a common species with long legs, short wings, short and slightly hooked beak, a well-developed crest, and long tail. It is easily domesticated and will guard its owner's fowls when tamed. Its food consists of insects and the smaller vertebrate animals.

Caribbean Sea, part of the Atlantic Ocean that lies between the coasts of S. and Central America and the islands of Cuba, Haiti, and Porto Rico and the Leeward and Windward isles. It communicates with the Gulf of Mexico by the Yucatan Strait, and is divided into two deep basins, both in parts over 20,000 ft. deep, by a broad submarine bank less than 6000 ft. deep, lying between Jamaica and Honduras. The eastern and larger basin has an area of 231,000 sq. m. The western basin is considerably smaller. The two basins are united by a strait between Jamaica and Cuba and Haiti. sea forms the turning point of the Gulf Stream.

Caribbee Islands, a name, chiefly of historical importance, sometimes applied to the whole of the W. Indies, strictly comprising only the chain of islands from Porto Rico to the Venezuelan coast of S. America. They are known also as Lesser Antilles, the bulk falling into the two groups of Leeward and Windward Is. Some of the chief islands in the chain are St. Kitts, Nevis, Montserrat, Dominica, St. Lucia, St. Vincent (British); Guadeloupe, Martinique (French); Saha and St. Eustatius (Dutch).

Cariboo, a dist. of British Columbia extending on both banks of the Fraser R., near its source. It is important on account of its gold mines.

Caribou, see REINDEER.

Caribs, or Caribbees, the name (first used by Columbus) of an aboriginal, predatory, warlike people of S. America, from whom the Cariban stock takes its name. They were expert seamen, and according to the latest views, spread from S. America northwards, occupying the Lesser Antilles, near what is still called the Caribbean Sea, by conquest of the original Arawakan tribes. They were distinguished for ferocity and cruelty. and made a bold resistance to the Spaniards. C. is said to mean 'valiant man.' They were cannibals, the word 'cannibal' itself being a corruption of Columbus's 'caribal' (derived from their tribal name), perhaps referring to the 'canine' voracity of the C. To put an end to the constant disturb- Herculaneum, and Pliny mentions

is often placed near it among the ances caused by the C., the English Falconiformes. Internally, however, government in 1796 deported them nearly all from Dominica and St. Vincent to Ruatan Island off Honduras. They numbered about 5000, and have since spread over the neighbouring mainland, the majority being now settled in Honduras and Nicaragua. Among the chief Cariban tribes are the Palmellas in Brazil; Bakaïris and Nahuquas on the Upper Xingu; Apotos and Waywai in Brazilian Guiana; Roncouvennes and Galibis in French Guiana; Mucusi in British Guiana; Kalinas in Dutch Guiana; Makirifares and Motilones in Vene-They are usually slight in zuela. figure, but strong and well-formed, though lacking muscle. They were described at the discovery of the new world, as 'the strongest, handsomest, and most intelligent' natives of that part. They are reddish-brown in colour, with long, thick, black hair, and Mongoloid features. They drink and Mongoloid features. They drink quantities of paiwari (liquor made from the cassava plant). Through admixture with negroes some are known as Black C. The C. were partly an agricultural people, and made good pottery. The modern tribes are far mere present the present far mara n They

ing, b

monial, and they practise the couvade. The favourite weapon is a battle-axe of polished stone. The kinship of the various C. communities from Central America to Central Brazil is entirely liguistic.

Carica, the typical genus of the order Caricaceæ, which grows in tropical America. The best-known species is C. Papaya, the papaw, a tree which has many uses. It is eaten ripe, boiled as a vegetable, the milky juice is a vermifuge. The juice of the plant forms a cosmetic, the leaves are used in washing instead of soap, and animals fed on the plant become tender. C. candamarcensis has edible seeds.

Caricature (Ital. caricatura), a representation of some person or group in such a manner as to excite ridicule or contempt. The word in our language is comparatively modern, having been first used by Sir Thomas Browne in his Christian Morals (part iii.), but the history of C. takes us back to very early arcs, certainly to Greek, possibly early Egyptian times. In Greece and Rome, however, ple-torial as compared with literary satire held but a small place; Greek Cs. are only known to us through references in Aristophanes and elsewhere, but many grotesque drawings have been uncovered in Pompell and

or less on actual facts and features. Even physical deformity, which ought to excite pity, has often been seized upon as a subject for derision, and as religious wars have notoriously been among the most cruel, so religious Cs., as in the pagan mockeries the early Christians, and broadsheets issued during the Reformation, have been among the most venomous and insulting. But as both art and manners improved, it was discovered that the rapier was more effective than the bludgeon, and though brutal and indecent draughtmanship is not even yet extinct, the greater part of our present day Cs. are as far removed from ancient grossness as the essays of Newman or Matthew Arnold are from the abusive rhetoric of mediæval controversy. Artists in the middle ages loved the grotesque; witness the monsters of the illuminated MSS. and the gargoyles of the cathedrals. the 10th and 11th centuries the story of Reynard the Fox, among others, was much used by monkish writers for satirical and didactic purposes; after passing through many varia-tions the story as now generally known was printed at Lubeck in 1498, with illustrations to match the text. Caxton had already published an earlier version in English. A generation later Holbein produced his won-derful 'Moralities,' including the famous 'Dance of Death.' These, though hardly what we should call Cs. were preparing the way for the great development of that art in and following centuries. and Holland were at first mo but Jacques Callot of Lorraine (1592-1635) struck out a new line, which was freely copied. As pictorial satire had played so great a part in religious disputes, it was now employed also in nolities, as for example in England during the great Civil War, and in Holland, where it was aimed against England and France in turn, and especially at Louis XIV. During the 18th century C. in England reached its height in the works of Hogarth, whose 'Mariage à la Mode 'and similar engravings have never been excelled. In politics, the South Sea Bubble and the abuses of Walpole's celled. administration invited and received satire, and with the outbreak of the French Revolution came also

furious cartoonist's war, Gillray and

Rowlandson being matched against

French rivals of equal virulence if less

power. Champfleury's Histoire de la Caricature, gives an idea of the sav-

Both literary and artistic C.

have always based themselves more

painters skilled in burlesque portrai- in France. During the 19th century these grossnesses have been quite abolished in England and largely so George Cruikshank comes between the school of Gillray and the later one of Punch with a style all his own, and since his time our country has been exceedingly rich both in caricaturists proper and in draughtsmen whose work is sometimes difficult to classify (e.g. the famous car-'Dropping the Pilot.'). Leech, Tenniel, Doyle, H. K. Browne, Keene. Du Maurier, Linley Sambourne, E. T. Reed, Harry Furniss, and others, have given us much of their best work in Punch, which journal stands without a rival in England, though it has had many competitors, some of them, such as Fun, Judy, and Moonshine, making excellent fights for recognition. The charming sketches of Randolph Caldecott (1846-86), the fun and pathos of Phil May, and the brilliant work of artists fortunately still among us, such as 'F.C.G.', Max Beerbohm, and others, have helped to place English humorous art in the very first rank. France, Germany, and America also have produced much fine work, in every case strength marked by nati

Caries, the bones of the body. It resembles the ulceration of the softer tissues, but by reason of the constitution of the parts attacked, it is of a more serious nature, and the inorganic constitution of the tissues renders them less easy to replace, and therefore to heal. It is generally caused by an injury, but also accompanies scrofula, syphilis,

diseased bone becomes soft and red. and particles come off, while the ulceration of the bone itself comes to the surface and forms a fistula. The matter of the ulceration must be removed, and the part treated antiseptically when the bone may heal, or the result may be obtained by gouging or excision. A course of calcium phosphate promotes forma-tion of new bone. C., or chronic decay of the teeth, gives rise to toothache.

Carigara, a tn. on the coast of Leyte, Philippine Is. It is a port of call for steamers coming from Manila. Pop. about 16,500.

Carignan, a French tn. in the dept. Ardennes, on the R. Chiers. Its original name was Yvois. It is a very old town, and its industry is supplied by the iron mines. Pop. about 2000.

Carignano, on It. tn. situated S. of Turin (Piedmont). The name of this age, often disgusting, work of that era town is that of a branch of the Savoy

family-Savoy-Carignan. Pop. about | Klagenfurt is the capital and centre 4500.

Carijos, one of the original tribes When the Portuguese Brazit. colonised Brazil they received them and were not hostile in any way. Later on, however, they rose when attacked, and this led to their almost total extermination.

Carillon, see BELL.

Carimata Islands, a group of more than 100 islands situated W. of Borneo. They are separated from the island of Billiton by the strait of the The largest one of this same name. group, Grand Carimata, is woody and mountainous. Pop. about 500.

Carina, or Keel, the term applied to two of the petals of a papilionaceous flower, e.g. pea or laburnum, which are fused together and form a boat-

shaped structure.

Carinaria, a genus of gastropod molluse, is to be found in tropical seas and the Mediterranean. shell is shining in appearance, small and conical in shape, the foot is long and the visceral sac is small. mediterranea is a common species.

Carinatæ, the larger of the two groups of living birds, the other being the Ratitæ, e.g. emeus and ostriches. It receives its name from the fact that the sternum is always keeled except in flightless forms, e.g. dodos, but barely all the species have wellformed wings capable of flight.

Carini, a tn. of Sicily in the prov. of Palermo. It is situated in a hilly country and has a Gothic castle. Pop. about 13,000.

Carinthia (Ger. Kärnten), crown-land and duchy of Austria-Hungary, E. of Tyrol, of area about 4000 sq. m. The district is very mountainous, bounded on the N. by the Hohe Tauern and Styrian Alps (with Gross Glockner, Hochnarr, Ankogel, Hafner Eck, Königsstuhl, etc., ranging from about 8000 to 12,000 ft.); on the S. by the Carnic Alps and Karawankas (Dobratsch or Villacher Alp, Och (Dobratsch or Obir, Petzen, etc., ranging from about 7000 to 9000 ft.). The R. Drave flows through the province from E. to W., its valley separating the two mountain chains. There are many beautiful (Wörther, Millstätter, lakes valuable Weissen), and mineral Among the many passes across the mountains are the Pontebba or Pontafel Pass, through which goes one of the chief Alpine roads from Italy to Austria (with the fortress

of the railway lines. Pop. about 24,000. Only a small part of the province is adapted for tillage; the majority of productive land having forests. Rye, wheat, oats, buckwheat, and clover-hay are the chief crops. Valuable horses and livestock are reared. The mineral resources are very great. C. is one of the chief leadproducers for Europe. Iron, coal, and zinc are also found. Bessemer steel rails, wire, bar-iron, and wire nails are manufactured. Machinery, textiles, wood-pulp, leather goods, fire-arms, and cement are exported. The local diet has thirty-seven members, including the Archbishop of Gurk. C. sends ten deputies to the Reichsrat at Vienna. For administrative purposes there are seven districts and the city of Klagenfurt. About 70 per cent. are Germans, 30 per cent. Slovenes or Slavs. The majority are Roman Catholics. Many towns in C. are becoming popular resorts. C. was part of Noricum under the Roman empire. The Carni were overwhelmed by Slavs (c. 6th century); Charlemagneannexed it to the Frankish empire; then for 500 years it was ruled by various dukes, finally coming under archdukes of Austria, 1335. Since then, except Austria, 1335. Since then, except when held by the French, 1809-13, it has been directly subject to Austria. Pop. about 370,000. Sec Ankershofen, Geschichte des Herzogtums Kärnten, 1850; Kärnten und Krain, 1891;

Alschker, Geschichte Kärntens, 1885. Carinus, Marcus Aurelius, Roman emperor c. A.D. 283-5, son of Carus, and governor of Western under him. He fought against German tribes, then returned to Rome and luxury. On the death of Numerianus, C.'s brother, Diocletian, was proclaimed emperor in Mœsia. Most accounts agree that C. won a battle against Diocletian on the Margus, but was afterwards killed by his own soldiers. See Vopiscus, Carinus; Pauly-Wissowa, Realencyclopädie, ii.

Caripuna, the name of a tribe of savages occupying parts of S. America. They are found in Brazil, on the bank

of the Madeira R.

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Carisbrooke, a vil. in the Isle of Wight in the co. of Hampshire, England. It lies to the S.W. of Newport, and was once the cap, of the island. Carisbrooke Castle, partly in ruins, is the distinguishing feature of the tn. It dates back to very early times, and was the scene of the imprisonment of Charles I. for a time. Pop. about 9000.

Carissa, a genus of Apocynacere, nsists of thorny shrubs which Gorandas, Christ's thorn, or the Carandas-tree, is used for fencing purposes in India, and the edible fruit is

the Loibl, Seeberg, and Arlscharte.

pickled, preserved, or eaten raw. C. | After taking his degree at Hillsdale xylopicron, the

native of Madagascar.

Carissimi, Giacomo (c. 1604-74), an It. musician and one of the greatest composers of his time. He was chapel master at the church of St. Apollinaris, and is especially famous for his reform of the recitative, and for being practically the inventor of the can-tata. His music is distinguished by its pure style and its exquisite melodies, while among his followers may be numbered such men as Bassani and Alessandro Scarlatti. He has written a number of oratorios in 1830. Among his other works are: and cantatas, the most famous among the latter being The Sacrifice of Jephthah.

Carit Etlar, pen-name of the Danish dramatist and novelist, Johan Karl Christian Brosböll (1816-1900). was born at Fredericia, and studied painting for some time at painting for some time at the academy of Copenhagen. He then took up literature, and published Slägtskabet in 1839. His works include historical romances, tales of Danish life, and dramas. His Skrifter (collected works) appeared at Copenhagen in 1859-68, and a fresh collecwas published from 1873-9. Among individual works may be named Livels Conflicter, 1844: Skyggebilleder, Nordenskjold, 1879; Ara-

here og Kabyler, 1868. Carlaverock, in the co. of Dum-

friesshire in Scotland, stands on the Solway Firth, about 6 m. from Dumfries. It is famous for its ruined castle, the seat of the Maxwells. Pop. about

1000.

Carlén. Emilie Smith Flygare (1807-92), a Swedish writer. She was born at Streemstad, and was the daughter of Rutger Smith, a trader. In 1827 she married Dr. Flygare. She was left a widow after about six or seven years, and she then began her literary career, writing Waldemar Klein in 1835. Shortly after this she married Johan Gabriel Carlén, a resident of Stockholm, and for the next ten or twelve years she wrote many novels. In 1852, however, her son died, and she was so grief-stricken that she wrote no more until 1859. In 1860 she founded a home for poor in the state of the foundary of her father, and an institution for poor students in memory of her son. Among her works are: Guslat Lindorm, 1839; Rosen på Tislelön Berättelse fråu Fosterbroderne, jöroman, 1848.

tn. about 19 m. from Syracuse. This tn. was founded by the Emperor Charles V. Pop. about 8000.

Carleton, Will (b. 1845), American poet, born at Hudson (Michigan). practice.

bitter-wood, is a College he travelled in Canada and the United States lecturing there. and afterwards also in Europe. Among his works are: Farm Ballads, 1873; City Legends, 1874; The Dead Student, 1879; City Festivals, 1892. Carleton, William (1794-1869), Irish

novelist, the son of a farmer. He himself was educated at various hinder was educated at various hedge schools and by a clergyman named Keenan. After trying several occupations C. adopted the literary one, and his first book. Traits and Stories of the Irish Peasants, appeared

Fardorougha, the Miser, 1837; The Black Prophet, 1847. Carli (or Carli-Rubbi), Giovanni Count (1720-95), Italian Rinaldo, political economist and antiquary. Senate of Venice made him professor of astronomy and navigation, 1744-50. President of Council of Commerce in Milan, 1753. He persuaded Joseph II. to abolish the Inquisition. His most celebrated work is Delle monete e dell' instituzione delle zecche d'Italia, 1754-60, on the coins of Italy. Others are: L'Uomo Libero, 1772; Lettere Americane, c. 1780; Delle antichità italiche 1788-91.

Carlile, Richard (1790-1843), son of a shoemaker, born in Devonshire. He was educated at the village school of Ashburton, and after having endured many hardships during his apprenticeship to a tinman, he became a journey-man tinman in London. After read-ing books on the subject he became an extreme Radical, and underwent several terms of imprisonment for publishing some of these books which had been suppressed, and also for writing his *Political Litany*, a work of the same kind. He was set free in 1825, and became editor of the Gorgon, a political paper. In spite of this, however, C. did a great deal for the freedom of the press.

Carlile, Rev. Wilson (b. 1847), was educated in London. He was or-

dained in 1880, and two years later founded the Church Army, of which he is the chief secretary. He is also a prebendary of St. Paul's Cathedral.

Carlina, a genus of Composite, spreads over Europe to the middle of Asia. C. vulgaris, the carline thistle, is a native of Britain; it has the curious habit of opening widely in dry weather, and in wet seasons the white inner leaves of the surrounding bracts cover over the flower-heads, leaving the rickly outer bracts exposed to the rin. C. acaulis, the weather-thistle, s abundant in the Alps and has the same characteristic action. The purgative obtained from the roots is used in veterinary

capitalist, born in London, Middlesex, Ontario. His father, Thomas C., was a native of Yorkshire, and left England for Canada in 1818. In 1849 Sir John C. married Hannah, daughter of the late Henry Dalton. In 1862 he held the post of Receiver General of Canada, and later became commissioner of Agriculture and Public Works. He was afterwards Minister of Agriculture, and in 1882 Post-master-General. He also founded the Agricultural College in Ontario.

Carlingford, an Irish tn. in the co. of Louth in the prov. of Leinster. It stands on the sea-coast on the bay, or lough, of the same name, and is noted for its oyster fisheries.

Pop. about 600.

Carlingford Lough, a part of the Irish Sea between co. Louth and co. Down, and is navigable for large

vessels.

Carlisle (Lat. Luguvallum, Brit. Caer Luel), city and parl. bor. of England, cap. of Cumberland, about 50 m. from Newcastle, 7 m. from Solway Firth. It stands on an eminence nearly surrounded by the rivers Eden, Caldew, and Petteril. Its port is Silloth, and it is a most important railway centre. London and North-Western, Midland, North-Eastern, Caledonian, North British, Glasgow

Danes, 875, and restored by William Rufus, who built the castle, 1092. Its ruins are now used as a barracks and armoury. Rufus also began fortifications, but they were not finished till the 12th century. The bishop's see the 12th century. The bishop's see was founded by Henry I., comprising counties of Cumberland, Westmoreland, and detached parts of Lancashire N. of Morecambe Bay. The fine medieval cathedral, built between 1092 and 1419. is partially preserved, notably the magnificent E. window in the choir. It has a monument to Archdeacon Paley. Edward I. held a parliament at C., and assembled his forces there for invading Scotland, 1298. During the civil war it sided with Charles, but was finally captured by Parliamentarians, after a hard siege, 1647; 1745 it surrendered to the Pretender, afterwards being taken and punished by the Duke of Cumberland. The chief streets lead from the market-place. It has many fine public buildings and institutions. It sends one member to parliament. Its chief industries are manufe of cottons, fabrics, hats. also dyeworks, fronworks, and bakeries. The United States has a lectures, on the poetry of Pope and

Carling, Hon. Sir John, K.C.M.G. resident consular agent. Pop. about 1893 (b. 1828), statesman and 50,000. See Creighton, Carlisle, 1889; 50,000. See Creighton, Carlisle, 1889; Freeman, 'Carlisle in Eng. Hist.,' in Archaelogical Journal, vol. 39, 1882; Ferguson, Carlisle Diocesan History, 1899.

Carlisle, a tn. in the state of Pennsylvania in the U.S.A. It is situated in the co. of Cumberland about 19 m. from Harrisburgh. Dickinson College was founded here in 1783, and there is also in the town an industrial training school. Pop. about 9600.

Carlisle, Sir Anthony (1768-1840), eminent English surgeon, first ap-prenticed to practitioners in York and Durham, then studied under John and William Hunter in London. Member of College of Surgeons, and surgeon-extraordinary to the prince-regent (George IV.); 1793-1840 sur-geon to Westminster Hospital; F.R.S. 1800, contributing various treatises on physiology; 1808-25 lectured on anatomy at Royal Academy; knighted 1820; became president of the College of Surgeons, 1829. C. introduced the thin-bladed, straight-edged amputation. ing knife. His writings were largely on anatomy; also on artistic and scientific subjects. One pamphlet was scientific subjects. One pamphlet was on Galvanic Electricity. See Gent. Mag., ii., Dec. 1840; Pettigrew's Medical Portrait Gallery, ii., 1840; Clarke's Autobiog. Recollections of the Medical Profession, 1874.

Carlisle, Frederick Howard, fifth Earl of (1748-1825), educated at Eton and Cambridge. Up to the time of his automatical communications.

of his appointment on a commission sent by Lord North to America he had spent his life in pleasure-seeking. but although this commission had no result he proved himself capable of holding such posts. From 1780-82, as Lord-Lieutenant of Ireland, he maintained peace and prosperity in that country. From 1789 until the French Revolution he was in opposition to

Pitt, but at that time he joined the

opposite party, and after voting against the Corn Laws in 1815 he retired into private life.

Carlisle, George William Frederick Howard, seventh Earl of (1802-64), educated at Oxford, where he distinguished himself as a scholar. In 1826 he went to Russia, and in the same year was elected to represent same year was elected to represent Morpeth, having become Lord Morpeth in 1825. In 1830 he became member for Yorkshire, and in 1832 was elected to represent the West Riding. From 1835-41 he was Chief Secretary for Ireland, and in 1850 was made Chancellor of the Duchy of Lancaster. In 1855 Lord Palmerston Lancaster. In 1855 Lord Palmerston ; ord-Licutenant of e he held till 1858.

He wrote two

on his own travels in America, 1850; and The Last of the Greeks, 1828.

Carlists, the name given to the fol-lowers of Don Carlos de Bourbon (1788-1855) and his successors, who have in turn laid claim to the Spanish throne. Don Carlos was the brother of Ferdinand VII. (1808-33). In 1824 many Spaniards were so discontented with Ferdinand that a plot was or-ganised to depose him in favour of Carlos, but the latter firmly refused to countenance any rebellion. In1830 Ferdinand was persuaded by his queen to alter the existing Salic law and appoint his infant daughter as his successor, to the exclusion of Don Carlos. The clerical party again tried to persuade the prince to head a revolt, but he once more refused. though declining to acknowledge the legality of the king's action. Ferdinand died, Carlos was engaged in assisting Miguel of Portugal against his rebellious subjects, and could not join his own partisans who proclaimed him king, but were defeated. In 1834 he fied to England, returning soon to head a rising in Biscaya, which failed, and he again had to escape, after two years of adventure, in which he himself won no distinction. died in 1855; his son Carlos succeeded to his claim, but was expelled from France, and took no part in the abortive C. risings of 1846 and 1848. In 1860 he and his brother Ferdinand landed in Catalonia, but were cap-tured, and only saved their lives by a humiliating surrender of their pre-tensions. Their brother John now put forward his candidature, afterwards resigning it to his son, Don Carlos VII., who raised a C. war in 1872, and for a time had some success, but was finally driven out of the country in 1876. After giving trouble in many countries he finally settled in Italy, where he died in 1909. His son Don Jaime is now recognised by Cs. as the legitimate pretender.

Carloforte, an Italian tn. situated on the island of San Pictro, near the coast of Sardinia. It has large salt works, and the zine and lead mined in Sardinia is exported from the roadstead between this town and San

Pietro.

Carlos, Don (1545-68), only son of Philip II. of Spain, was from his boyhood of defective intellect and violent temper, and showed unmistakable signs of insanity; nevertheless an marry Elizabe

II. of France. of Philip's sec that monarc

engagement and married Elizabeth Louis le Debonnair, shared his himself. After an illness in 1562 the domains between his sons, Charles II. prince's derangement became more taking France (840).

violent, and his vicious mode of life caused much scandal. In 1567 he was imprisoned on a charge of plotting to murder his father, and died within six months after, under mysterious circumstances which have never been fully explained. He was generally believed to have been poisoned, but this has not been proved. In Motley's Rise of the Dutch Republic, the story of his life is vividly related, and several writers, including Schiller and Alfleri, have founded dramas upon it.

Carlos I. (1863-1908), King of Portugal, succeeded his father Luiz I. in 1889. He was a lover of peace, and encouraged literature (he was the author of the best translation of Shakespeare in the Portuguese language), science, and art, but the latter part of his reign was disastrous, owing to the policy of his chief minister, Senhor Franco. The king and his eldest son were assassinated in Lis-

bon, Feb. 1, 1908.

Carlovingians, or Carolingians, a French dynasty, named after its greatest monarch, Carolus Magnus (Charlemagne). About the year 623 Clotaire II., one of the Merovingian kings, gave his son Dagobert the kingdom of Austrasia (roughly speaking Lorraine and Franconia), with Pepin as mayor of the palace, whose son Pepin II. made himself master of both Austrasia and Neustria in 637, though he did not assume the royal title. His natural son Charles Martel seized the reins of government on his father's death, and became renowned as a warrior and administrator, but still contented himself with being ' Duke ' and chief minister to the nominal king. (For his great victory over the Saracens, see Creasy's Decisive Battles.) His son, Pepin III., put this bold question to the pope: 'Which with the throne. has the greater right to the throne, the man who has the name and not the power, or he who has the power but not the name?' Receiving the answer he desired, he deposed Childeric, and became king, reigning from 752 to 768. He was succeeded by his son, Charlemagne, one of the greatest monarchs in European history, both Extending as conqueror and ruler. Extending his kingdom across the Pyrenees to the Ebro, eastward to the Elbe, the Bohemian Mts., and even to Croatia and Dalmatia, and southward Naples, he was crowned by Pope Leo arrangement was made that he should III. as head of the Holy Roman em-He was a patron of learning, tablishing schools and universities.

which he was greatly assisted by lcuin of York. Charlemagne's son, his later Charles III. re-united the empire a professional activities and the complete and professional activities and the complete and the comple but was deposed by Odo of Paris, and though there were other C. monarchs their authority was little more than The dynasty ended with nominal. Louis V., who was succeeded by

Hugh Capet (987).

Carlovitz, or Karlowitz, a tn. in Slavonia, Austria, on the r. b. of the Danube, 6 m. S.E. by S. of Peterwardein. The treaty of C. was signed here in 1699 between Turkey and the allies-Austria, Poland, Russia, and Venice. The town is noted for its sweet red wine, and has a Greek cathedral.

Carlow: 1. Small inland co. of Ireland in Leinster. Area about 349 sq. m., mostly arable. It is bordered by mountains in S.E. (Mt. Leinster), the rest being level or undulating. Chief towns, Carlow, Tullow, Bagenalstown. Pop. (1901) 37,700. 2. Municipal bor., chief tn. of above co., on R. Barrow, about 50 m. from Dublin, on C. Railway. Seat of Catholic bishop of Kildare. Till 1885 sent one member to Ruins of an ancient narliament. Anglo-Norman castle dating from 1180 can be traced. There are flourmills and much granite rock near by. St. Patrick's College was founded 1795; 1798 Irish rebels attacked the town, but were repulsed. Pop. about 6500. See Ryan, History and Antiquities of Carlow, 1833.

Carloway, Doon of, the remains of a circular tower at Carloway, a town of Rosshire, on the island of Lewis in

Scotland.

Carlsbad, see KARLSBAD. Carlsburg, see KARLSBURG.

Carlshamm, see KARLSHAMM. Carlskrona, or Karlskrona, a forti-fied seaport and naval station of Sweden, on five rocky islands in the Baltic, which are connected together and with the mainland by fourteen bridges. It was founded in 1680 by bridges. It was founded in 1680 by Charles XI. It has a magnificent harbour with a naval arsenal and dockyard. Pop. (1900) 23,955.

Carlson, Frederick Ferdinand (1811-87), Swedish historian and statesman. born at Kungshamn, Upland. He was educated at Upsala University, and held, among other posts, those of tutor to the Swedish princes, 1837-46; and professor at the university of Upsala, 1849. In the National Diet he represented the University and then the Academy of Sciences of Stockholm from 1850-65. His chief work is Sveriges Historia under af Pfalriska Huset, Konungarne 1855-1910.

Carlsruhe, see Karlsruhe. Carlstad, see KARLSTAD. Carlstadt, see KARISTADT.

and Rome he 1 doctrines as Luther. His views, however, were more advanced than those of the latter, and the two found themselves in opposition, as C. denounced the practices of the church without limit. He was accused of taking part in the peasant's revolt and fled to

Switzerland about the year 1525. Carlton, a tn. of England in the co. of Nottinghamshire. It manufs. lace.

Pop. about 10,000.

Pop. about 10,000.
Carlton Club, so called from being near the site of Carlton House (famous during the Regency); the headquarters of Conservatism since its foundation by the Duke of Wellington in 1832. The present building, 94 Pall Mall, was designed by Sir Robert Smirke. Number of members, 1800, page 1850. 1800; entrance fee, £40; annual sub-scription ten and eleven guineas.

Carluke, a Scottish tn. in the co. of Lanarkshire, about 5 m. N.W. of the town of Lanark. It is a large mining town, and quantities of coal and from are found here. Pop. about 4800.

Carlyle, Alexander (1722-1805), was a Scottish minister. He took his degree at Edinburgh University and afterwards went to the universities of Glasgow and Leyden. In 1748 he became minister of Inveresk, a position which he held for the rest of his He adopted the views of the writer, John Home, one of his friends and favoured the moderate party in the church. He numbered among his friends Adam Smith and David Hume, as well as other men famous in the literary world.

Carlyle, Rev. A. J., Scottish clergy-man, born 1861 educated at Glasgow and Oxford Universities. He was or-dained to the curacy of St. Stephen's, Westminster, 1888. Secretary to S.P.C.K., 1890-91; rector of St. Martin's and All Saints', 1895; ex-amining chaplain to the Bishop of Worcester, 1897-1901. C. is now (1913) chaplain and lecturer in political science and economies at University College, Oxford. He wrote with his wife, Life of Bishop Latimer; with his brother, History of Mediaval Political Theory in the West; and an essay on the Church in Contentio Veritatis.

Carlyle, Jane Baillie Welsh (1801-66), wife of the historian, born near Haddington; among her ancestors were John Knox and Sir William Wallace. As a girl she was a pupil of Edward Irving, who in 1821 introduced her to C: they became great friends and their friends cand their friends friends, and their friendship ripened into a stronger feeling. He was, how-Carlstadt, Andreas Rudolf Boden- ever, in poor circumstances: Mrs. stein af (d. 1541), born at C. He was Welsh also discouraged his wooing,

and a formal engagement was long postponed, but the wedding finally took place in Oct. 1826. For years C's income was small, and his wife, who was not used to hardships of which he made light, suffered in health and spirits. After several changes of residence, between Edinhey reburgh ar settled moved in Here, down in as C.'s reputation increased, thev made many friends, among others Lord and Lady Ashburton. This intimacy was in one way unfortunate; Mrs. C. thought herself slighted by Lady Ashburton, and said so; her husband thought her unreasonable. and she, greatly hurt, formed a circle of friends of her own. In 1857 Lady Ashburton died, a year later Lord Ashburton married again, and his second wife and Mrs. C. became close friends. But there were also other troubles, arising from C.'s bad health,

was born on Dec. 4 at the little village of Ecclefechan in Dumfriesshire. After acquiring the rudiments of education from his parents, he went for a time to the parish school, and then, in 1805, to the Annan Academy, where for the first two years at least he was profoundly unhappy, finding his only comfort in omnivorous reading. He entered himself in Nov. 1809 as a student of Edinburgh University, and there he remained until 1813, when he came down without taking a degree. It was at this time that he began to prepare himself to take orders in the Church of Scotland, supporting himself the while by teaching. In 1814 he obtained the post

studying medicine at Edinburgh and Germany, tried to establish he practice in London, but failed; obtained a post as private physician first to the Countess of Clare and afterwards to the Duke of Buccleuch. In 1843, having saved a moderate competency, he settled near his brother, and devoted himself to began translating literature. HeDante's Divina Commedia, but only completed the Inferno, his rendering of which (published 1849) was highly praised; he also edited Dr. Irving's History of Scottish Poetry. Settling in Scotland during the latter part of University.
Carlyle, Thomas (1795-1881), his-

of mathematical master at Annau Academy at a salary of about sixty pounds, and during the two years he was there he decided that he had not a call to the ministry. There seemed no career open to him except that of teaching, and from Annan he went to Kirkcaldy to take up a somewhat better paid position as assistantmaster at the parish school. There he became intimate with Edward Irving. who was at this time head of a school in the state of the school in the his life, in 1878 he founded two The friendship endured, but the love medical bursaries at Edinburgh affair was nipped in the bud. By Nov. 1818, C. had come to the conclusion that schoolmastering was the most torian and man of letters, the second detestable occupation in the world, son of James C. by his second wife, and, having saved seventy pounds,

engagement contracted earlier with a Miss Martin. C. was kept in ignorance of the state of affairs, and he too fell in love with the girl, who, after Irving's marriage in 1823, did not actually encourage him, but clearly could not bring herself to dismiss as a suitor. C. in 1822 became tutor to Charles and Arthur Buller, both of whom acquired some distinction in the world, at what seemed to him the splendid salary of two hundred a year. C. had soaked himself in German C. had source minisen in German literature for some years past, and these studies dictated his earlier works, The Life of Schiller, which, after appearing serially in the London Magazine in 1823 and 1824, was published. lished in 1825; and Wilhelm Meister's Apprenticeship, 1824. With Irving he had visited London in 1824, and made some acquaintances in literary circles; and after his return he persuaded Miss Welsh to become his wife. They were married on Oct. 17, 1826, and settled in Edinburgh, furnishing on the proceeds of German Romance, a volume of translations from Musaeus. La Motte Fouqué, Tieck, Hoffman, Richter, and Goethe. He now de-pended for his livelihood on his pen, and he was so fortunate as to secure admittance in 1827 to the Edinburgh Review, his first contribution being an essay on Jean Paul Richter. Soon he was in full work, writing for the principal periodicals, the Foreign Quarterly, the Westminster, and Fraser's Magacine. It was in the last-named that in 1833-4 Sarlor Resartus appeared, but it was so little popular that it was not until five years later he could find any one to bring it out in book form. In the summer of 1834 he took up his residence at No. 5 Cheyne Row, Chelsea, London, and there he wrote the French Revolution, which appeared in 1837. He eked out a meagre income by delivering courses of lectures on German literature, 'Heroes, Hero-worship, and the Heroic in History,' etc., but he hated the work, and was relieved when Mrs. C. came into her mother's small fortune in 1842, and he could devote himself ex-

he threw up his post, and went with Irving to Edinburgh. It was his intention to become a lawyer, but he soon tired of the study of the law, and sabandoned all desire to enter that issued in 1850, and the Life of John profession. He contrived to pay his way by giving private lessons. Here he made his first plunge into authorship, writing articles for the Edinburgh Encyclopædia. Irving in 1821 into-peared in 1858, and the Life of John Strilling in the following vear. He now devoted the greater part of his time to the composition of Frederick the Encyclopædia. Irving in 1821 into-peared in 1858, and the Life of John Speeches. Latter-day Pamphlets was devoted the greater part of his time to the composition of Frederick the School, daughter of Dr. John Welsh, of Haddingston, with whom Irving was feared in 1858, and the Life of John Speeches. Latter-day Pamphlets was forthed in the Life of John Stirling in the following vear. He now devoted the greater part of his time to the composition of Frederick the Stirling in the following vear. He now devoted the greater part of his time to the composition of Frederick the Stirling in the following vear. He now devoted the greater part of his time to the composition of Frederick the ship, writing articles for the Edinburgh Encyclopædia. Irving in 1821 into-peared in 1858, and the Life of John Stirling in the following vear. He now devoted the greater part of his time to the composition of Frederick the ship, writing articles for the Edinburgh Encyclopædia. Irving in 1821 into-peared in 1858, and the Life of John Stirling in the following vear. He now devoted the greater part of his time to the composition of Frederick the ship, writing articles for the Edinburgh Encyclopædia. Irving in 1821 into-peared in 1858, and the Life of John Stirling in the following vear. He now devoted the greater part of his time to the composition of Frederick the ship and the steem in the steem in the latter gave to the world the sear and speeches. was nominated against Disraeli as a candidate for the office of lord rector of Edinburgh University, and wa-elected by 657 to 310 votes. The death of his wife from heart-disease, while driving in Hyde Park, on April 21. 1866, caused him much grief, and the rest of his life was embittered by the knowledge, which came to him too late, that he had, by his perverse ways and cross-grained temper, caused her great distress. He prepared for publication her Letters and Memorials, but these were not published until two years after his death. He was much pleased when in 1874 the Prussian Order of Merit was bestowed on him, a compliment singularly appropriate, since Frederick the Great founded the order. In the same year Disraeli offered him the choice of a baronetcy or the Grand Cross of the Bath, which touched him to the quick, for, as he said, Disraeli was the only man of whom he had always spoken with contempt. The letters exchanged on this occasion were worthy of the writers, and will always find a place in any collection of the correspondence of great men. C. refused both alternatives, but thought more kindly of the statesman ever after. He died on Feb. 4, and a burial service at Westminster Abbey was offered, but, in accordance with his wish, his remains were interred at Ecclefechan. C. won his place in the world of letters with difficulty. Sartor Resartus, his first important work. that fantastic gospel of clothes, set more against him at the time of its publication than it is easy now to con-ceive. The French Revolution, too, had its detractors, the true Carlylian style, in spite of its brilliance, annoying the critics. Yet, if ever it was the case, the style was the man. No man could acquire such a style, it was born with him, and his imitators, who at one time were numerous, have paid the penalty of oblivion for their attempts to ape the master. 'His faults of style,' said that discerning critic, Leslie Stephen, 'are the result of the perpetual straining for emclusively to his books. He published phasis of which he was conscious, and

which must be attributed to an ex-1 fact that the Duke had tried to poison cessive nervous irritability seeking him gave the senate confidence in his

compelled to try to portray them vividly, and the conventional styles giving him no outlet, he made a style for himself, which is, however, always clear. The French Revolution marked him out as a star of great magnitude. and this impression was confirmed by his Cronwell, in which he gave a new, and probably truer, conception of the Protector's character. The fourteen years' labour that it took to produce Frederick the Great produced a work second only, if indeed second, to the French Revolution. The minute introductory survey of the Hohenzollern dynasty in the eighteenth zonern dynasty in the century, in spite of the learning that inspired it, is dry-as-dust, though invaluable to students, but the most carcless of general readers must appreciate in the later books the vivid characterisation of the king and of the leading figures that surrounded him. As a picturesque historian C. has no equal: to compare Macaulay with him is merely to show the difference between a lighted candle and an arc-lamp. He had knowledge, as a matter of course; he had virility, and he had the power to convey his thoughts in a fashion so vivid that to read him once is never to forget him. The principal authority for C.'s life is his Reminiscences (ed. Froude, 1881), and for Mrs. C.'s life her Letters and Memorials, 1883.

Carlyle, Tnomas (1803-55), a native of Kircudbrightshire, was called to the Scottish bar in 1824, and acted as defendant's counsel in the Campbell heresy trial, 1831. Joining the Irvingite church in 1832, he was in 1838 appointed 'Apostle' to N. Germany, and during his residence there wrote his Moral Phenomena of Germany which attracted great attention.

Re died at Albury, Surrey.

Carmagnola, a tn. of Northern Italy, in the prov. of Turin, situated on the R. Po. Its manufs. are silk and jewellery, and it trades in corn and cattle. Pop. 12,000.

Carmagnola, Francesco Bussone Carmagnola, Francesco Hassing (1390-1432), one of the celebrated condottiere, born at Carmagnola in Piedmont, Italy. He entered the service of Filippo, Duke of Milan, who raised him to the rank of count and made him governor of Genoa. success in the field roused the Duke's jealousy, and before long there was a coolness botween them, ending in a definite rupture. C., in revence, offered his services to the Venetians. The political situation of Venice made loyalty to them. He defeated the Duke's army at Maclodio, and took Brescia from him. After this, peace was made lasting only for one year. On the renewal of hostilities C. again took command, but he was also in communication with the Duke, who tried to seduce him by the offer of bribes. His indifference resulted in reverse and failure, and the senate. tired of his duplicity, enticed him to Venice, where he was brought before the Committee of Ten, tried, tortured to extort a confession of guilt, and beheaded.

Carmagnole (from Carmagnola, N. Italy): 1. A peasant costume of Piedmont and the Midi, carried by southern revolutionaries to Paris in 1793. 2. A wild song and dance which went with the costume, and were in great favour with the 'Reds' during the Terror. The refrain of

each verse was-

' Vive le son, vive le son, Dansons la Carmagnole, vive le son du canon!

Carman, Bliss (b. 1861), Canadian poet, born at Fredericton in New Brunswick. After an education at Brunswick. After an education at the universities of New Brunswick, Edinburgh, and Harvard, he became a journalist, and has published several yolumes of poems. Among these may be named: Low Tide on Grand Pre, 1893; Behind the Arras, 1895; Ballads of Lost Haren, 1897; Songs from Vagabondia (with Richard Hovey), 1894, and two continuations in 1896 and 1900; A Winter's Holiday, 1899; Christmas Eve at St. Kavin's, 1901.

Carmania, a steel turbine steamer, carmania, a steel turbine steamer, triple screw, owned by the Cunard Line. It was built by J. Brown & Co., Ltd., of Glasgow, in 1905, and launched at Clydebank. Length 650 ft., breadth 72, speed 20 knots. Carmania, the ancient name of Kirman (g.w.).

Carmarthen, a co. tn. and parl. bor. (united with Llanelly, since 1832) Towy, Carmarthenshire, of great antiquity and the onThough legendary fame, it has very few old buildings. Once the principal centre of the Welsh wool trade, it has now several important industries. 10,000.

Carmarthen Bay, a large opening on the S. coast of Wales, chief that Te-116 and Lianelly.

largest co.

of rivers the Towy, Tuf, and Teifi. On the S.E. border Carmarther Van, in the Black Mts., rises to 2632 ft., and Mynydd Mellenia to 15 ft., and his assistance most welcome, and the Mynydd Mallaen in the N.E. to 1430

ft.: there are many other groups in the throughout Europe. The valleys are fertile, and 1000 ft. the hillsides afford good pasturage. The county produces coal, slate, mendicant friars. especially dairy farming and stockraising, the coal-mining, iron-founding, and smelting-works being confined to the S.E. Along the coast there are extensive sands and maisness. The county is served by the G.W. the men and resulted in the formation and L.N.W. railways, the former of a new order of Discalced or Barerunning through to Pembrokeshire, footed C. which has prospered far more than the old order. There are two county parliamentary divisions and one borough, each returning one member. The total pop. is nearly 140,000. The antiquities of C. are numerous and interesting, including British and Roman remains, and many mediæval ruins. Old Welsh folk-lore and superstitions linger in the valleys, the traditional beaver hats and plaid shawls are hardly yet extinct, and a curious inquirer may find, if not fairies, at any rate believers in them.

Carmaux, a tn. of S. France in the dept. of Tarn, situated on the R. Cérou, 10 m. N. of Albi. There are coal mines in the neighbourhood, also brick and glass works. Pop.

11,000.

Carmel, Mount, is a range of mountains in Palestine 18 m. long, extending from the plain of Esdraelon in a N.W. direction through the plains of Sharon to the bay of Acre, where it terminates in the only promontory on the Palestine coast. The highest point is 1750 ft. It is very fertile and beautiful, and hares, partridge, quail, woodcock, and jackals are found. Mahara-jah ('the place of burning'), a clift 1700 ft. above sea-level, is the reputed scene of Elijah's sacrifice, and close by is the cave in which he is said to have lived. According to Tacitus, a god Carmel was worshipped here.

account of their grey scapular, founded in 1156 by an Italian

from the time o Christ, and that, its members being with purgatives to prevent painful then converted, the community had griping and as gentle tonies to stimufrom the time o then converted, the community had continued without a break. The controversy on this question reached its height in the 17th century, and was only stopped by a papal edict in 1698. In 1238 the C. were driven out of Palestine by the Saracens, and

Their rule was county, mostly grassy hills under modified to suit the western climate. and the C. were in 1247 changed by Pope Innocent III. from hermits into In England they limestone, clay, and some lead, but flourished greatly, and possessed fiftyits industries are chiefly agricultural. two houses at the dissolution of the monasteries. In the 15th century an order of C. nuns was founded, with a lax rule, which St. Teresa in 1562 attempted to restore to its primitive austerity. This rule was taken up by

Carmen, a port of Mexico in the state of Campeche, Yucatan. It is situated on the island of C., and possesses a good harbour. There are

exports of dye woods. Pop. 6500.
Carmen Sylva, the pen-name of Elizabeth, Queen of Roumania (q.v.). Carmichael, James Wilson (1800-68). English painter, born at New-castle-on-Tyne. He was chiefly famous for his pictures of marine subjects; wrote two works of some value, The Art of Marine Painting in Water Colours, 1859, and The Art of Marine Painting in Oil Colours, 1864. His pictures were exhibited at the Royal Academy and elsewhere, his first appearance being in 1838. He painted in London from 1845 to 1862, when he went to Scarborough, where he died.

Carmignano, a tn. of Italy, in the prov. of Tuscany, 13 m. N.W. of Florence. The manufacture of straw plait and hats is carried on, and there is an export trade in wine. Pop.

11,800.

Carmina Burana, a collection of songs, mostly in Latin, but some in German, written by Goliards or wan-dering scholars of the 12th and 13th centuries. These men were clerks, and the songs have generally the form of hymns. They vary greatly in character, some being lofty in tone, others worldly, satirical, and even distinctly immoral. The MS. is now at Munich. Carmelites, Order of, or Friars of immoral. The MS, is now at Munich, our Lady of Mt. Carmel, commonly but was once kept at the abbey of called in England White Friars,

their name.

sader, Berthold, who established a liber (2nd edit. 1883). sader, Berthold, who established a lerminatives, remedial agents hermitage on Mt. Carmel with some which relieve flatulence, colic, etc. few companions. It was believed by The ordinary condiments, as pepper, many, however, anchorites had

late digestion.

Carmine is the vivid red colouring matter obtained from the cochineal insect. It was discovered in 1756 by a Franciscan monk at Pisa, whilst conducting experiments in medicine. settled in Cyprus, then spreading In manufacturing C. the cochineal is exhausted with boiling water, and the colouring matter precipitated by the addition of acid or acid salt.

Carmona, a tn. of Spain in the prov. of, and 20 m. N.E. by E. of the city of. Seville. It is visited by the residents as a holiday resort. The manufactures are woollen goods, leather, and earthenware, and it trades in wine.

olive oil, and grain. Pop. 18,000. Carnac is a vil. in the dept. of Morbihan, France. It is famous on Morbihan, France. It is famous on account of the great druidical monuments in the neighbourhood. avenues, consisting of thousands of blocks of rugged grey granite, extend over 11 m. of heath. The blocks are in the form of obelisks with the apex reversed: none are more than 18 ft. high. These menhirs, or standing stones, are in eleven parallel rows. Here and there the rows are irregular, the gaps being accounted for by the houses in

which the utilised this stone. There are various groups of menhirs round C., situated at Kermario ('place of the dead'), Kerlescant ('place of burning'), Erdeven, and St. Barbe. The object and origin

of these stones is uncertain. Roman remains were found about 14 m. away from C. when the Bossino, another group of mounds, was explored by Mr. Miln, 1874-80. Pop. of commune, 2901.

Carnac, or Karnac, a vil. of Upper Egypt, in the prov. of Keneh, built on the ruins of the ancient city of Thebes.

Carnahuba, Carnauba Palm. Copernicia cerifera, a Brazilian palm which is of handsome appearance and great use. leaves exudes quantities of wax which is manufactured into candles and serves to adulterate bees'-wax.

Carnarvon, armoured cruiser of the British navy, completed in 1905. built by Beardmore at a cost of nearly

£900,000.

Carnaryon, the co. tn. of Carnaryonshire, N. Wales. It is situated on the Menai Straits, and is 68 m. W. of Chester on the L. and N.W. Railway. It was once the Roman station Caer Seint, the capital of the Segontiaci. The castle, one of the finest examples of medieval fortification in the British Isles, lies to the W. of the town. It was built by Edward I. in 1284, and is in excellent preservation. It is an irregularly shaped building with thirteen polygonal towers; the famous Eagle Tower was built by Edward II. The castle was besieged by Owen well-known valleys of Beddgelert and Glendower in 1402. The investiture Llanberis. The centre of the county Glendower in 1402. The investiture as Prince of Wales of Prince Edward took place at the castle in July 13. 1911. The parish church lies outside the town at Llanbibby. A steam ferry river Conway is navigable for about

connects Tau-y-Foel with C. town is a municipal borough and market, and with Bangor returns one member to the House of Commons. The chief industries are shipbuilding, fishing, and tanning; slate and copper ore are also exported. Pop. 9760. Carnarvon Bay, to the S., is a very favourite summer resort.

Carnarvon, dist. and tn., N.W. of the prov. of Cape Colony, S. Africa, 102 m. N.N.W. of Beaufort W. For the most part the district is very dry. but it is possessed of an immense reservoir, the Van Wyk's Vice. Pop.

of district 6172, of town, 1000. Carnaryon, Henry Howard Molyneux Herbert, fourth Earl of (1831-90), English politician, succeeded to the title in 1849. After taking his degree at Oxford, he took a prominent place as a member of the House of Lords, and in 1858 was made Under-Secretary for the Colonies, succeeding to the Secretaryship of State in 1866. He introduced the bill for federating the Canadian provinces, the North America Act; but resigned office owing to his disapproval of the Re-form Bill of 1867. In 1874 he again joined the Conservative cabinet, but resigned in 1878 over the Eastern question and Disraeli's policy. In 1885 he was made Lord-Lieutenant of Ireland and came into conflict with Parnell over a private interview in which he was alleged to have made overtures on behalf of the Conservative party in regard to Irish Home Rule. He again resigned. In 1887 hc

The under part of the President of the Society of Anti-

quaries.

Carnarvonshire (Welsh, Caer-'narfon, Caer-yn-Arfon), one of the northern counties of Wales, bounded of the N. by the Irish Sea, E. by Denbigh and Merioneth, S. by Cardigan and Tremadoc Bays, W. by Carnarvon Bay and the Menai Straits, dividing it from Anglesey. The area is 565 occupied by the Lleyn peninsula jut-ting out into the Irish Sea and forming Carnarvon and Cardigan Bays. small portion of the county is de-tached on the N. coast of Denbighshire. C. contains some of the finest scenery in Wales, with splendid mountains and beautiful valleys. The (Wyddfa

lest point ot lie the

is the most mountainous, with Carnedd Llewelyn (3484 ft.), and Carnedd Dafydd (3426 ft.). The tidal

12 m. and divides Carnarvon from Denbigh; the Nant Ffrancon runs through the Betwery-Coed valley to Beaumaris Bay; the county also boasts of many lovely lakes. The L. and N. W. and the Cambrian railways supply a service of trains to the many places of resort, such as Cric-cieth, with its castle, Penmaenmawr, near the Great Orme's head, Llandudno, etc. Lead, copper, and some gold is found, and the slate quarries, especially those at Penrhyn, are most productive. Sheep and dairy-farming are carried on in the valleys, and the Welsh popies are bred here. In ancient times C. was inhabited by the Segontiaci; from here Agricola effected the conquest of Anglesey: many remains of British earthworks. etc., are to be found in various parts of the county. Carnaryon is in the diocese of Bangor, with a small portion in St. Asaph. It returns two members to the House of Commons. Pop. 126,000.

Carnatic, or Karnatic, the European name of a region of Southern India, lying between the Coromandel coast and the Eastern Ghats. It now forms part of the governorship of Madras. In the 18th century it was ruled by the Nawab Sa'adet-Allah of Arcot and his successors, and was the centre of the struggle for supremacy in India between France and Great Britain. In 1801 it came under British rule. The district abounds in temples, some of great age and beauty. The pop. consists chiefly of Brahmanical Hindus.

Carnation, the name given to many double-flowering varieties of plants which have sprung from Dianthus carnophyllus, the clove-pink, a beautiful specimen of Caryophyllacere. They are cultivated very largely in Britain, and range in colour from red to white. yellow, and violet, and many of them are beautifully variegated. never occur in a wild state, but they are hardy and require only a rich, light soil in which to bloom. Propagation may be effected by means of layering, cuttings, and seeds, but the most successful of these methods is by layer or by pipings.

Carneades (213-129 B.C.), a Greek philosopher, born at Cyrene, was the founder of the New Academy. More ís kı an his life. the Stoic His and dies were the exposing whose fallacies he established his own philosophies. In 156 he was sent on an embassy to Rome, where his eloquence and brilliant argument incited the young Romans to study

This displeased Cato, philosophy. who expelled him.

Carnegie, tn., Allegheny co., Pennsylvania, U.S.A., 6 m. S.W. of Pittsburg. It was formed into a borough in 1894, and gains its name from Andrew Carnegie. It possesses large steel and iron works: there are alkaline and lithia mineral springs hard by. Pop. 8000.

Carnegie, Andrew (b. 1837), American manufacturer and philanthropist, was born in humble circumstances at Dunfermline in Fifeshire, Scotland. In 1848, his parents emigrated to America, settling at Pittsburg, Pa. The boy entered a cotton factory as a weaver's assistant, and for some time his wages were a little over one dollar per week. At the age of fourteen he became a telegraph boy in Pittsburg, and learned to telegraph. Then, joining the Pennsylvania Railroad, he became telegraph operator, and ultimately rose to be superintendent of the Pittsburg division. was at this time that he laid the foundation of his fortune by the in-troduction of sleeping-cars on the railway, and by his successful invest-ments in oil lands near Oil City. It was after the Civil War, during which he had rendered valuable service to the government as superintendent of military railroads, that his great work began, in the development of the Pittsburg iron and steel industries. He established the Keystone Bridge Works and the Union Iron Works, for the manufacture of steel rails. He then built the Edgar Thomson Steel Works, and in 1883 acquired the Homestead Steel Works. His sphere business extended with rapidity, until in 1901, the whole of the vast C enterprise was taken over by Mr. J. Pierpont Morgan, as the United States Steel Trust, and Mr. C. himself retired from business. Since this time public attention has been fixed by the admirable manner in which Mr. Carnegie has utilised his vast wealth for philanthropic purposes. Perhaps chief among his works has been the provision and equipment of libraries in England and English-speaking countries. He has distributed over £10,000,000 for this purpose alone. For the benefit of sum of £2,000,000 to provide class-fees for students, and he has also made presentations to English and American universities. In 1903 Mr. C. founded the Dunfermline Trust with an income of £23,000 for the with an income of £25,000, for the improvement of his native town. He has also erected homes and provided funds for his old employees. Mention must be made of the Carnegie Hero Fund, started in 1904 for the United States and Canada: in 1908 for the United Kingdom. Its purpose is 'to

place those following peaceful voca- cession of the Rœuf Gras takes place tions, who have been injured in an the animals being led through the heroic effort to save human life, in somewhat better positions pecuni-arily than before, until again able to work.' Mr. C.'s publications include: American Four - in - Hund Britain, 1883; Round the World, 1884; Triumphant Democracy, 1886; The Gospel of Wealth, 1900; Empire of Business, 1902; Problems of To-day, 1908. See Alderson's Life.

Carnforth, an English tn. in the co. of Lancashire about 6 m. from Lan-caster, on the L. and N.W. Railway. Its chief industry is iron. Pop. about

3050.

Carnières, a tn. of Belgium in the prov. of Huinaut, on the route from Mons to Charleroi. There are stone quarries, coal mines, and iron works in the neighbourhood. Pop. 8000.

Carnival (carno, flesh, levare, to

lighten).

'This feast is named the Carnival, which being

Interpreted implied farewell to flesh.' Byron, Beppo, vi.

It commenced on the feast of Epiphany, or Twelfth Day, and ended on Shrove Tuesday, but was afterwards restricted to eight days before Ash are fused in the manus; and the claws Wednesday, the feast preceding the long fast. Its origin was doubtless the Saturnalia of the pagan Romans, who on becoming Christian, incorporated adapted to the mode of life of the many of their rites and customs in animals. There are nearly always six their new religion. In Roman

Germany, Fusching, as the . dalled, was the precursor drama, and at Nürnburg the first breat Eve's play was produced. This developed later into masques and mysteries. In Germany only the Dalle farmerly tooth are grinders with cutting edges, revived now in Hamburg, Leipzig, and Berlin. As a rule, Protestant countries do not observe it. Italy is the country in which it is most cele-Goethe has described it in brated. Venice there is a mad riot of revelry. Riderless horses race upon the Everyone wears the mascara, costumes vie with each other in extravalumes vie with each other in extravalumes be used when the animals Masks, limbs may be used when the animals Riderless horses race down the Corso. gance and bizarre design. Masks, balls, and flower throwing are the popular pastimes. Decorated cars.

Tuesday,

after sunset, every one sallies forth with a lighted taper. The object is to put out as many tapers as possible of other peoples while preserving their own alight. Special names were given to the chief days, viz. Greasy Sunday, Blue Monday, or Fool's Consecration. On the Sunday before Lent the pro-graphical distribution of the animals

the animals being led through the streets by butchers in costume. the Nice C. mi-carême, an effigy of King C. is paraded through the streets.

Carnivora (Lat. caro, flesh, vorare to devour) form in zoology an important mammalian order. As the name implies, the members are all flesh-eaters, but they are not the only creatures which feed on their fellows -the diet of blood-sucking bats and some marsupials, such as the opossum. bear evidence to this fact-and many of these so-called carnivorous animals are either omnivorous or largely herbivorous. The order is usually divided into the sub-orders Fissipedia, or terrestrial members of the group, and Pinnipedia, or the aquatic forms, with flippers for limbs; the latter division is, however, by some zoologists considered to be a separate, though nearly allied, order. The characteristics of the C. are the sharp teeth, small incisors, well-developed brain, simple stomach, reduced or absent cæcum, zonary placentation, incomplete or absent clavicles; there are never less than four toes on each foot; the scaphoid and lunar bones

ich jaw, and two

The cheekes.

kept the festival, but it has been and behind are others which are revived now in Hamburg, Leipzig, broad and tuberculated. In the Pinnipedia there is no carnassial tooth, the incisors are never less than two in each jaw, and the cheek-teeth do not vary in formation. The mode of procharacteristic style. In Rome and gression in the former sub-order is

> travel on land. Considerable difficulty ated cars, is experienced in classifying the Craft all kinds but the usual plan among the terstreets as restrial forms is to divide them into three groups, the Eluroidea, represented by the cats, the Cynoidea by dogs, and the Arctoidea by bears. The Pinnipedia consists of the walrus and various seals. Fossil species of both sub-orders have been abun-dantly discovered, and have proved of great scientific interest. The geo

is world-wide but for Australia and in 1885 Minister of Finance. In 1887, New Zealand, and our domestic pets after the 'decoration scandals,' he

the dog and the cat.

Carnivorous Plants.

culture is the chief employment, and flax spinning is carried on. Pop. 7600.

Carnot, Lazare Hippolyte (1801-88). French statesman, was the second son of General Lazare N. Marguerite C., born at St. Omer. He shared his father's exile till 1823, and on his return devoted himself to literature and philosophy. Entering politics, he was elected deputy for Paris, 1839, becoming one of the leaders against Louis Philippe; he was Minister of Education in 1848 and retired on refusing to take the oath to the Emperor Napoleon. He died three months after the election of his son, Sadi C .. to the presidency of the republic.

(1753-1823), was born at Nolay, Bur- in the neighbourhood. Pop. 5500 gundy, France. He entered the French Carnuntum, a Roman forti army, 1784, as an engineer, having obtained a captaincy on the completion of his studies at the military school of Mazières. In 1786 he published his celebrated Essai sur les Machines en Générales. In 1791 he became a member of the national assembly and an influential power on the Committee of Public Safety. After reorganising the revolutionary armies he concentrated his energies on repulsing the powers of Europe from the frontier of France. During the reign of terror he was accused, dismissed, and finally sentenced to transportation. He fied to Germany. and there wrote a defence of himself, which caused his colleagues' ruin. He was recalled to Paris in 1800, and became minister of war, conducting the Italian and Rhenish campaigns This ended, he with great credit. retired from public life, and wrote his Traité de la Defense des Places. Again in 1814 France was in difficulty, and C. came forward to help, magnificently defending Antwerp against the allies. He was minister of the interior during the Hundred Days, after which, worn out with the strife of public life, he retired to Warsaw, then to Magdeburg, where he died.

Carnot, Marie François Sadi (1937-94), president of the French republic, was the eldest son of Lazare Hippolyte C., and grandson of Lazare N. Marguerite C., the 'organiser of victory.' He was educated as a civil engineer,

include two typical representatives in was elected to the presidency and had to meet the danger from the Carnmoney, a vil. of Ireland in repeated during the Panama scandals co. Antrim. 5 m. N. of Belfast. Agriculture is the chief employment his popularity he was assassinated by an Italian anarchist, Caserio, after speaking at a public banquetat Lyons. Carnotville, a tn. of W. Africa, and French station, belonging to the

French colony of Dahomey.

Carnoustie, a tn. and police burgh in S.E. Forfarshire, Scotland, 10 m. E.N.E. of Dundee by N. British Railway. It is a favourite watering-place on the North Sea, with excellent sea bathing and golf. The dangerous shoals, the Roaring Lion, lie off Buddon Ness, on which are two light-houses, built one above the other. The large artillery and camping Carnot, Lazare Nicolas Marguerite ground, known as Barry Links, are

> Carnuntum, a Roman fortified station, of which the remains exist near Hainburg, in Austria. It was the centre of Roman military operations on the Danube, and of the trade in amber from the N., belonging first to Noricum and later to Pannonia. The name, connected with karn, cairn. points to its Celtic origin. Marcus Aurelius made it his headquarteragainst the Marcomanni, and Septimus Severus was proclaimed emperor by the soldiers there. In the 9th century it was destroyed by the Hungarians. The ruins are extensive.

> Carnutes, a Celtic tribe of Central Gaul, between the Seine and the Loire. The chief towns were Cenabum (not Genebum), now Orléans, and Chartres. They were subdued by Julius Cresar, and in return for military services retained their institutions Augustus, becoming faderati of the

Roman empire.

Carnwath, a par. and vil. of Scot-land in Lanark, 27 m.S.E. of Glasgow. Coal and iron are obtained in large quantities from the neighbourhood.

Pop. 5600.

Caro, Annibale (1507-66), Italian poet, born at Civita Nuova in Ancona. He was tutor and secretary in a rich Florentine family, named Gaddi, and was presented to ecclesiastical benefice in Rome. Iπ 1543 he became the confidential secretary of Pietro Lodovico, Duke of Parma, and afterwards to his sons. His best-known works in verse inand entered the public service. A clude translations from the classics, strong Republican, he was elected to the National Assembly in 1871 and joined the ministry in 1878; in 1880, Canzoni, sonnets, and a muusing he was Minister of Public Works, and eulogy of the big nose of the president His poetry is marked by high qualities.

philosopher, born at Poitiers, was educated at the Stanislas College and the Feels and the Ecole Normale. He graduated in 1898 and became professor of philowas professor to the Faculty of Letters of the Academy. He was He was Christian position, include Le Matérialisme et la Science, 1868; Le Pessimisme au XIXme Siècle, 1878; La Philosophie de Goethe. 1880. He married Pauline Cassin, the authoress of Péchéde Madeleine and other novels.

Carob-tree, or Ceratonia siliqua, constitutes a genus of Leguminose; common to the Mediterranean.

CERATONIA SILIQUA.

Carol (O.F. carole, a dance with song), in accepted English usage, a song for the Christmas festival. Diez suggests that the origin of the word is 'chorus;' others derive it from corolla, a little crown or garland. The earliest meaning applied to the word seems to have been a 'ring-dance' or 'to dance in a circle.' Stonehenge, once called 'the Giant's dance,' was also the 'Giantes Carole. Dancing and singing were part of religious worship from the earliest times. Carolling, dancing with sing-ing, was handed on from pagan ritual to the Christian Church. In 1209 the Council of Avignon forbade dancing and secular singing in churches. In the cathedral of Seville the choristers perform a castanet dance round the lectern thrice a year. Caxton, in the Golden Legend, refers to the 'carolles of virgyns,' and Chaucer uses the word in 'I saw her dance so comely, carol and sweetly sing.' In Spain many early Cs. refer to gipsy girls dancing and singing. The Manx people have a collection of Cs., locally called 'carvels,' which were sung in the churches on Christmas Eve, each singer bringing with him a candle. Most of these Manx Cs. consist of tales of the judgment day and hell and not of the Nativity or the joyful themes of Christmas - tide. The Bretons have also a large collection and sweetly sing.' In Spain many Bretons have also a large collection of ancient Cs. The earliest printed collection was issued in 1521 by collection was issued in 1021 by Wynkyn de Worde; this contains the famous 'Boar's Head Carol,' still woman of thirty-one when the sung at Queen's College, Oxford, to usher in the boar's head. There are numerous collections of French Cs., numerous collections of French Cs., and several German

of the Accademia della Virtu, Leoni Wiegenlieder, cradle-songs, associ-Ancona. His prose works consist ated with the Babe of Bethlehem, the chiefly of translations from Aristotle. Iullaby Dormi, Fili, being one of the best known. Some of the 15th century and his letters by remarkable finish of style. He died at Rome.

Caro, Elme Marie (1826-87), French

Tree Carol, and the familiar 'I saw three ships come sailing by.' That the singing of Cs. as an excuse for the asking of alms was a very early 1898 and became professor of philocustom, seems likely from an Anglosophy in the provinces, and in 1864 Norman C. now in the British Museum. The word C. is freely used by poets in reference to people or birds singing elected to the Academy in 1874. His joyously, such as in Tennyson's philosophical works, mainly directed Elaine carolling as he went a true against the positivist attacks on the love ballad, or in Spenser's Epithala-Christic positivist attacks on the love ballad, or in Spenser's Epithalamion, 'the cheerful birds do chaunt wright, Songs and Carols, 1847; W. Sandys, Christmas-tide, its History, Festivities, and Carols, 1852: J. A. Fuller-Maitland and W. S. Rockstro, Thirteen Carols of the Fifteenth Century, 1891.

Carolina, North and South, two of the thirteen original states of U.S.A., bounded on the E. by the Atlantic, on the S. by Georgia, on the W. by Tennessee, and on the N. by Virginia. Colonisation was first begun by Sir Walter Raleigh, but it was not till the reign of Charles II. that the settlements showed signs of prosperity. N.

ments snowed signs of prosperity. N. Carolina, area 52,426 sq. m.; pop. (1900) 1,893,810. S. Carolina, area 30,989 sq. m.; pop. (1900) 1,340,316. Caroline (1683-1737), Queen of George II., was the daughter of John Frederick, Margrave of Brandenburg, Angagh, Five years after her father's Anspach. Five years after her father's death in 1687 her mother married Elector John George IV. of Saxony, and C. lived with her mother at Dresden. Left an orphan in 1696, the girl lived at Berlin with her guardians, Elector Frederick III. of Branden-burg, and his wife, Sophia Charlotte, daughter of the Electress Sophia. Nine years later she married George Augustus, Electoral Prince of Han-over, by whom she had many children, the eldest being Frederick, afterwards Prince of Wales. When her father-in-law became King of England in 1714, she and her consort (now Prince of Wales) came to this country. Thirteen years later George Augustus ascended the throne. Amelia Elizabeth,

Caroline Ameiia Elizabeth, of George IV.. was the daughter of Charles William Ferdinand, Duke of Brunswick, and of Princess Augusta of England, a sister of George III. She was a bright, headstrong, foolish women of thirty-one when she care Caroline woman of thirty-one when she came to England to marry the Prince of Wales. The marriage was unhappy from the wedding-night, when the After the birth of a daughter, Charlotte, a ing to a prehistoric race well adseparation took place, and the vanced in general culture. In the princess went to live at Blackheath, island of Leie the ruins appear like a birth of a daughter, Charlotte, as separation took place, and the princess went to live at Blackheath. In 1806 an inquiry was made into the charges of adultery brought against her by Lady Douglas, but the commissioners decided that she was guilty of nothing worse than in-discretion and that Lady Douglas had committed perjury. The matter was re-opened by the prince six years later, with the same result. Weary of continual persecution at the hands of her consort, she went alroad in 1813. When she became queen seven years later, she returned to England. She was now tried before the House of Lords for misconduct with Pergami, but the bill was not proceeded with. So strong was the feeling in her favour, that had she been found guilty it is in the highest degree probable that George IV. would have bable that George IV. Would nave the the royal physician, Struence (4.0.1) coronation, at which she was not even permitted to be present, she died. As liaison roused the anger of the people, her coffin was borne through the who did not believe in the mental metropolis, on its way to ies of the king. When the people showed their with her by attacking th

Clerici, 1907; and Lewis Melville, 1912. Caroline Islands, a scattered archinelago in the Pacific Ocean, included pelago in the Pacific Ocean, included in Micronesia, between 5° and 10° N. and 135° and 165° E. They belong to Germany. The total land area is 380 sq. m., and total area 800 sq. m. Pop. about 40,000. They are divided into three groups, E., W., and Central. The chief islands are Ponape and Kusaii in the E. group, Yap in the W., Truk in the Central. The Pelew Is., of which Rabelton is the largest are administ Babeltop is the largest, are administrated from Yap. The climate is healthy, but the islands are subject to severestorms and the rainfall is heavy.

Among the chief products are copra, pearl and turtle shell, and bêche de mer. The natives, very mixed ethnologically, are excellent boat builders and navigators and successful agriculturists. Yap is remarkable for its receiver and resulting the same successful agriculturists. peculiar currency; in addition to the ordinary shell-money, huge limestone disks are used from 6 in. to 12 ft. in diameter; these are brought from the Pelew Is., and are piled round the parently

The C. by the Portuguese Diego da Rocha, who named them Sequeira Is., in 1686 they were renamed by Admiral Francisco Lazeano in honour of Charles II. of Spain. In 1899 they were bought by Germany from Spain for 25,000 non pesetas. In Ponape and 1. colossal stone structures exist,

citadel with basaltic ramparts; there are also numerous canals and apparently artificial harbours with high sea walls built in the water. whole island of Ponape is strewn with basalt blocks of huge size put together without mortar, once having formed massive walls. The present Polynesian peoples could not have planned or executed these works, and they are attributed to a race of the new Stone Age, possibly coming from the Asiatic mainland. See F. W. Christian, Caroline Islands, 1899.

Caroline Matilda, Queen of Denmark and Norway (1766-72), was born 1751,

k, Prince of ed Christian nd Norway. influence of

was arrested she shared his made an attempt to shield him. He did not try to conceal their guilt, and on his execution she was divorced and sent to Celle where she died, 1775. See Wraxall, Life and Times of Queen Caroline Matilda, 1864; Wilkins, A Queen of Tears, 1904.

Carolings, see Carlovingians.
Carolus, the popular name of an
English gold coin, struck in the reign of Charles I. It was rated at £1, but appreciated in value to £1 3s. 9d. Its official title was 'unit,' and it was also called a 'broad.' C. dollars,' Spanish, of Charles III. and IV. were long current in the E., especially in China, containing eight reals; they were known as 'pieces of eight.' They are still current in some of the tea-growing districts of China, and as the people hoard them they have greatly exceeded their intrinsic value.

Carolus-Duran, the name adopted by Charles Auguste Emile Durand, French painter, born at Lille, 1837. He first studied at the Lille Academy, and then went to Paris; in 1861 he travelled in Italy and Spain, where the pictures of Velasquez greatly appealed to him. He made a special study of that great master's style and technique. His first success was with Assassination, which is now in the Lille Museum Later he became a Lille Museum. Later he became a famous portrait-painter. In 1869 a portrait of his wife, called 'The Lady with the Glove,' was bought for the ead of one ^paris, and artists of

his pupils. His extraordinary power of vivid realism and his exquisite handling of surfaces are only two of his chief characteristics. In 1904 he was made a member of the Académie des Beaux Arts, and, 1905, Director of the French Academy at Rome.

Caronia, a seaport on the N. coast

Caronia, a seaport on the N. const of Sicily, in the prov. of Messina, 20 m. E. of Cefalu. Pop. 5500. Carora, a tn. of Venezuela, S. America, in the state of Lara, situ-ated on the Riv. C. Rubber, leather, and hides are exported, and horseraising is an industry. Pop. 6000.

Carotid Arteries, two arteries which convey the blood supply to the head. They pass through the neck on either side of the windpipe, and each opposite the angle of the jaw divides into two, one branch serving the nose and eyes. and the other branch the brain. The pulsation in these arteries is easily felt from the surface.

Carouge, tn. and suburb of Geneva. Switzerland. It became part of the canton of Geneva in 1815, previously belonging to Savoy. It is situated on the R. Arve. Pop. 7487.

Carp, or Cuprinus carpio, belongs to the sub-order Ostariophysi of the order Teleostei. Originally it belonged to Asia, but it has been introduced into Europe and for several centuries The fish, has flourished in Britain, which is closely related to such wellknown species as gold-fish and minnows, often grows to a very large size, and may weigh as much as fifty pounds; examples have been known to attain a great age also, some living as long as 200 years. In colour they are brown above, light beneath, have a compressed body covered with large scales, a long dorsal fin and shorter anal fin, and round the mouth depend four barbels. The C. usually inhabits quiet lakes, ponds, or sluggish streams, and during winter hibernates in mud: it is capable of living for a considerable time out of water. Its food is either vegetable or animal. The female is very prolific and spawns on weeds in May or June. The Crucian or Prussian C., a native of Europe, has the technical name Carassius vulgaris, while C. auratus is the gold-fish. Carp, Petre (b. 1837), Roumanian

statesman, born at Jassy. He was the leader of the Young Conservative or Janimist party, the Janimed being a literary society which he founded with Rosetti and Maiorescu and changed into a political association, 1881. The object of the party was to improve the condition of the peasantry, to introduce a gold peasantry, to introduce a gold away in the such standard, to develop the industries an elevation of 6000 ft. of the country by means of foreign known passes are Teregova, from

to-day, including J. S. Sargent, were capital and to maintain an alliance C. came into a bill for the inds, and suc-

ceeded in introducing a gold standard. He was, however, unable to retain office and was succeeded, 1891, by I. Catargin. He translated some of

Shakespeare's plays into Roumanian. Carpaccio, Vittore (c. 1450-1522), Italian painter, born at Venice, of an old Venetian family. Little is known about his life, and his birth is much disputed. He may be regarded as a forerunner of the finest Venetian masters. His chief works were painted between 1490 and 1519. He was certainly a pupil of Lazzaro Bastiani, He was rather than his master, as formerly held, and he may have travelled with Gentile Bellini to Constantinople. His greatest works are at Venice: the series of pictures in St. Giorgio degli Schiavoni, brought so prominently to notice by Ruskin, was painted by order of the hospice of S. Giorgio from 1502-8. The Madonna and Child, in the National Gallery, commonly attributed to C., may probably only be painted by members of his studio. See *Life and Works* by Molmenti and Ludwig, translated by

R. H. Cust. 1907.

Carpathians. a great mountain system in Central Europe, extending from Presburg to Orsova, enclosing Hungary and Transylvania in a vast crescent of 800 m. The Danube valley divides them from the Alps, and the March from Silesia and the Moravian mountains. After forming the boundary between Hungary and Rou-mania, they turn S., cut by the Danube, which flows in a picturesque gorge between Bazias and Turn Severin. They then slope down to the Roumanian plain in beautiful wooded declivities, intersected by valleys of numerous rivers, fed by the high rainfall of the district. For the purpose of classification the whole system may be divided into two great groups, the Eastern and Western C. The Eastern C. stretch from the mouth of the Nera to the source of the Theiss, separating Austria from Roumania. The Western C., starting at the Theiss form the boundary between Hungary and Galicia, and terminate at Presburg. The chief groups of mountains are: Little C., Beskids, Central C., White Mts., Lomnitzer Spitze, Eisthaler Spitze, and the High Tatra group, including the highest peak in the C. Garlsdorfer 8737 ft. Fow. the C., Gerlsdorfer, 8737 ft. Few mountains reach or pass into the snow line. There are no glaciers but e condition of the glacial lakes, Meerangen, are hidden introduce a gold away in the snow-bound recesses at

valley of the Schyl; Rottenthurm, in the S. Transylvanian Alps, in a gorge formed by the Alata: Tursburg, be-tween Bucharest and Kronstadt; and Jablunka, between Presburg Cracow. The C. form a watershed for the Baltic and the Black Seas, the most important rivers rising there being the Dniester, Vistula, Theiss, Maros, and Szanos. Besides having more mineral wealth than any other mountain system of Europe, the region of the C. is rich and fertile, and well wooded with oaks, beeches, evergreens, and firs. In the less civilised parts wild animals are found, including the wolf, bear, and lynx, and occasionally chamois and ibex. The lammergeier, or bearded vulture, is found here. Geologically, there are four zones of the C.: (1) The outer zone, lying towards Russia, of soft tertiary rock, containing salt and petroleum; (2) the Sandstone zone, extending S.E. from the March; (3) the Crystalline zone of palæozoic rocks; (4) the volcanic zone, containing no active volcanoes, but subordinate mountains of volcanic origin. Gold, silver, quicksilver, copper, and iron are the chief minerals obtained.

Carpeaux, Jean Baptiste (1827-75), French sculptor, was born at Valenciennes. His father was a mason, and during his early years the family was extremely poor. For two years he worked in a drawing school in Paris, and in 1854 entered the Ecole des Beaux Arts. He was awarded the Grand Prix de Rome for his statue of 'Hector with his Child, Astyanax.' At Rome he felt the influence of Michael Angelo, and became more vigorous in style and passionate in expression. He sent several works to Paris which were exhibited in the Salon and gained medals. C. must be regarded as one of the influences which have helped to free modern sculpture from the weight of academic classicalism. Among his chief demic classicaism. Among his chief works are: 'La Palombella,' 1856: 'Neapolitan Fisherman,' 1858; 'Girl with a Shell,' 1869; 'Ugolino and his Children,' 1863; a 'Statue of the Prince Imperial,' 1866, after which he was made a chevalier of the Legion of Honour. In 1869 he executed one of the groups, 'Dancing,' for the Opera House, which aroused much prejudice by its strong realism, vigour, and vitality. His last work, a foun-tain, is in the Avenue de L'Observa-toire, Paris. Many of his drawings and studies are at Valenciennes.

Orsova to Temeswar: Vulkar, in the only one C. in the flower, and the valley of the Schyl; Rottenthurm, in gynæceum is then said to be monocarpellary, but if more than one should be present it is polycarpellary; in any case the C. or Cs. are important parts of the female essential organ of the flower, and the aggregate number constitutes the gynaccum. When the Cs. of a polycarpellary pistil are united to one another the condition is syncarpous; when they are free from each other it is apocarpous. The fusion of Cs. affects the way in which the ovules are placed within the ovary, e.g. those which are folded on themselves first, and then fused by their adjacent margins, bear ovules in the centre, when the placentation is said to be axile. The placenta is a swollen cushion formed from the fused margins which are themselves called septa. The style is a prolonga-tion of the upper part of the C. and the stigma is the terminal knob borne at the apex of the style.

Carpentaria, Gulf of, is situated on the N. coast of Australia, between Capes Arnheim and York. The most important islands contained in it are Groote, Eylandt, and Wellesley. receives the Mitchell, Flinders, Leichhardt, and Albert rivers. The coast is low and swampy. It was named in 1623 by Carstenz, after Pieter Carpentier, governor-general of the

Dutch Indies.

Carpenter, Alfred John (1825-92), an English physician, entered St. an English physician, entered St. Thomas's Hospital, 1847. He practised at Croydon, becoming M.B. (Lond.), 1855: M.D., 1859. C. was Liberal M.P. for Reigate, 1885, and N. Bristol, 1886. He was president of the council of the British Medical Association, 1878-81. He published Principles and Practice of the School of Hygiene, 1887.

Carpenter, George (1657-1732), and

Carpenter, George (1657-1732), an English general, entered the army, 1672. He served in Ireland and Flanders, and in Spain as quarter-master-general to Peterborough, 1705. He commanded the cavalry at Almanza, 1707, at which battle he was second in command. He was second in command. He joined the Hanoverian party, defeating the Pretender at Preston. 1715. He was created baron, 1719: M.P. for Westminster, 1722-29. See Life of Lord G. Carpenter, 1736; and Dict. of Nat. Bion.
Carpenter, Dr. Lant (1780-1840), a

Unitarian minister and theological writer, born at Kidderminster. He Northamp.

Univer-

Carpel, the term applied in botany assistant-master at a school in Birto each transformed leaf found in the imingham, and subsequently librarian centre of the flower whose function it of the Liverpool Atheneum (1802-5), is to produce ovules. There may exist when he was chosen as Unitarian

minister of a boarding-school in tions, an old cathedral, and an Exeter (1805-17). From 1817-29 he aqueduct of forty-eight arches. The held a similar position in a school at Bristol. He was drowned off the coast of Leghorn. Dr. C. published numerous sermons and polemical tracts, and wrote: Unitarianism, the Doctrine of the Gospel, 1809; Systematic Educa-tion (2 vols.), 1815, etc. His Memoirs were edited by his son, R. L. Carpenter, in 1842.

Carpenter, Mary (1807-77), an English philanthropist, born at Exeter, daughter of Dr. Lant C., a Unitarian minister, and sister of Dr. W. B. C. father's boys'

iterest in poor

Dr. J. Tuckerman of Boston, and in 1835 she started a working and visiting society and later a ragged school with a night school in the poorest part of Bristol. The visit of the Hindu philanthropist, Rammohun Roy, 1833, aroused her sympathies with India, and the first of her journeys to the East was taken. 1866, where she initiated several reforms for women and children. She wrote many books embodying her schemes for the education of destitute children and those on the border of a criminal or vagrant life. Her book Juvenile Delinquents was instrumental in the passing of the Youthful Offenders Act, 1854. She died in Bristol. See Life by J. E. Carpenter, 1879.

Carpenter, William Benjamin (1813-\$5), English naturalist, son of Dr. Lant C., born at Exeter. He graduated M.D. at Edinburgh, 1839, was made F.R.S. in 1844, gold medallist of the Royal Society, 1861, and was Fullerian professor of physiology at the Royal Institution from 1845, being a most popular and admirable lecturer. His works include Principles of General and Comparative Physiology; Principles of Mental Physiology; The Microscope and its Revelations. He was registrar of the tions. He was registrar of the university of London, 1856-79. He died from burns caused by an accident while working.

Carpenter Bee, or Xylocopa, is so named from its habit of boring holes in dry timber and forming little cells in which to lay eggs. The partitions between the cells are made of the wood-dust fastened together with saliva. X. virginica, a N. American species, is as large as a humble bee.

Carpentras, a tn. 16 m. N.E. of Avignon by rail, in the dept. of Vauchuse, France, which as Carpentoracte of the Romans was flourishing before Casar's invasion of Gaul. Its interesting buildings include a 14thcentury legate's palace, a 3rd-century

chief manufactures are silk, chemicals, and earthenware. Pop. 10,500.

Carpentry may be defined as the art of working timber into various shapes with different varieties of tools, and combining the pieces to support a weight or sustain a pressure. The difference between C. and joine:

with ornar

of th eye as is that of a joiner, but is infinitely more necessary. All the products of the joiner's art to be found in any house could be removed therefrom without in any way affecting the utility of it, though the beauty of the house would of course be seriously impaired. The composition and resolution of mechanical forces form the principles of the science of C., and the skilled carpenter must have either a practical or theoretical knowledge of such laws. It is beyond the scope of this article to go into such principles, but some explanation may be given of the terms and general processes of C. Any assemblage of pieces of timber connected together is called a 'frame.' The points of meeting of the pieces of timber in a frame are termed joints,' and one of the first requisites in C. is a knowledge of the various ways of joining pieces of timber so as to stand different strains and pressures. When one piece of timber is not long enough, it is joined to another piece in the same direction by various methods; this is called technically 'lengthening' a beam. The roughest method of doing this is by 'fishing;' the ends of the beams are placed together, and a piece of tim-ber is placed on each side and secured by bolts passed through the whole. Another method is 'halving' the beams so that they present a level face when joined together, and can be united by means of bolts. Scarfjoints ' are employed when it is necessary to maintain the same depth and width throughout the beam. In this method a part of the thickness of the timber is cut away from each beam; the parts cut away are on opposite sides, and correspond to each other, so that the beams will fit into each other, and can be botted. Different varieties of scarf-joints are employed where the timber is subjected to compression, tension, or to a bending strain, etc. Hard wood pieces called 'keys' are inserted into the holes of a scarf-joint before the bolts in order to compress the beams closely together; they must not be driven in too hard or the fibres of the wood will century legate's palace, a 3rd-century too hard or the fibres of the wood will triumphal arch, ancient fortifica-be strained. In bolting together scariprotect the wood. Another mode of joining timber is by mortise and tenon, which is employed wherever one piece of timber meets another without crossing it. A hole called a mortise is made in one piece of timber, and a projecting portion called a 'tenon' is left on the other. The tenon is driven into the mortise and secured in position by glue, or by a pin penetrating it laterally through the side of the mortised beam, or by an external iron strap which passes round the beam and is riveted in the other, the beam which has the When the two pieces of timber do not meet each other at right angles, modifications of the mortise and tenon joint are adopted, so that a bearing surface may be provided which is at right angles to the direcwhich is at right angles to the direction of the thrust exercised by the entering timber. Other operations performed when timbers cross each other are 'notching,' cogging,' and 'housing:' these joints must be these joints must by bolts or straps. strengthened by When greater strength is required than a single beam will give, the pro-cesses of 'building' and 'trussing' beams are used. Building beams is combining two or more beams in depth so as to have the same effect as one large beam; the beam is cut in two and supported with cross-beams The in the operation of trussing. framework by which the covering of a building is supported is known as the roof. The simplest form of roof with their one ends rest walls and their other en at a ridge pole. These rafters, and their lower These are connected by a piece of timber ' called a tie, as otherwise this framework would thrust out the roof when loaded with the weight of the cover-The whole frame is known as a couple; such a simple form of roof, however, can only be used when the building is less than 20 ft. long. When the tie is longer than that, it is apt to sag in the middle, and a fourth piece, called a 'king-post,' is added to unite it directly with the apex of the rafters. Cross-pieces, called 'struts,' are Cross-pieces, added if the rafters are liable to sag: their centres are thus united to the centre of the tie. If the span is longer than about 30 ft. it is inadvisable to leave the rafters unsupported for half their length, and the following formation is substituted: the centre of it: the rafters are also joined to each other by a piece which runs parallel pieces, and above the tie. The perpendiculars known as 'quarters,' with which the and the section of the tie enclosed by space between is occupied. If the

joints side plates of iron are used to them thus form a parallelogram with protect the wood. Another mode of the rafters. The horizontal piece is called a collar-beam, and the suspending pieces queen-posts. whole frame is known as a truss; the trussed frames are placed at intervals of about 10 ft. They support horizontal pieces known as purlins, which run the whole length of the roof, and support the common rafters and their covering. All roofs, of whatever size, are founded on the above models, unless it is not desired that there should be a tie-beam, as in churches, etc. The walls are then made stronger or the roof principals are modified in shape to meet the greater horizontal pressure. The framing of timber supporting the floor of the room above and the ceiling of the room below is called the 'naked flooring;' there are three main kinds of flooring-single, double, and framed. Single flooring consists of one series of joists which stretch right across from wall to wall The flooring without any support. The flooring boards are laid on the top of these joists, and to the under side is affixed the ceiling of the lower story. Double flooring has a middle series of binding joists, resting on the walls in the same way as the joists of single flooring; above these joists are the bridging joists and below are the ceiling joists. Both these are notched into the main joists where they cross them, and support respectively the floor above and the ceiling below. Framed flooring has beams in addition to the binding, bridging, and ceiling joists; the bindconsists of a series of pieces of timber ing joists do not cross the whole but are framed into itervals. A double plaster is occasionen sound; the most

floors ensure evenness of floor and ceiling, and single floors give strength combined with lightness where the spans are not very great. If the span for a single floor exceeds 8 or 9 ft., the joists should be strutted together to prevent twisting. Rough wooden profiles of the cornices of a room are made, and afterwards lathed round and plastered. This process is known as 'cornice bracketing.' The frames of timber which are used to divide the upper stories of a building into rooms are called partitions. When these are not required to bear any heavy weight, they are formed as follows: each rafter is joined to the tie by a A piece of timber, called a 'sill,' is piece which falls perpendicularly on load clone the floor called a correspond-

ts. The

it has to be trussed with posts and revocation of the Edict of Nantes, braces, and brickwork or concrete most of the weavers—for the majority may be used to fill up the space. When a staircase is made of wood, the pieces of timber upon which it rests, and which form the framework, are known as the carriage. They are two in number, and are inclined at the angle which it is desired that the steps should have; they are called technically 'rough strings.' A piece of timber, which projects horizontally from the upper level to which the staircase leads, forms the support for the 'rough strings' and also for the joists of the landing; this is called a 'pitching' or 'apron' piece. When bridges or vaults are in course of construction, curved frames are needed to support the arch stones; these frames are known as 'centres,' The rames are known as 'centres,' The colours is drawn and held in loops over ribs of which the centres are comribs of which the centres are com-posed are built of a series of short timbers shaped to the curve required; they are placed about 6 ft, apart, and are connected by horizontal ties as well as by diagonal bracing. The centres serve to support the narrow boards which carry the stones of the arch. When the arch is properly arch. When the arch is properly cut the worsted, leaving a full velvety gradually so that the arch takes its proper bearing slowly. Staging is built up of two rows of standards, or built up of two rows of standards, or does not be supported by the standards of the standards or does from year, early times. They large square timbers, resting on a 'sill' of timber on the ground.
Longitudinal beams at the top support a platform, on which a small railway may run. If the staging is large and required for a travelling crane, it is known as a 'gantry.'

Carpet (It. carpita, a coarse cloth, from Lat. carpere, to pluck), a heavy woven fabric, used as a covering on floors. They were first made and used in the East, where the custom of sitting cross-legged on the floor and of praying in a low, crouching position necessitated the use of some soft covering to the floor. When Cs. were first brought to England, they were used as a rich covering for beds and tables, straw, dried rushes, or sand being spread over the floors. The use of Cs. as table-covers originated the expression on the carpet, meaning on the council chamber, applied to a question under discussion. When Cs. were first spread over floors they were regarded as a great luxury, and only in keeping with a lady's boudoir. Hand-woven tapestries were commonly made during the middle ages in convents and by ladies of rank, and were sometimes spread over the floors. The industry first developed in France, where a factory was established in 1607 at the Louvre by King as in worsted cloth.

Henry IV. Other C. factories were

Azminster carpet.—It was first established in Chaillot, 1627, and at made in England by Thomas Whitly

partition has to support any weight Beauvais, 1664. In 1685, with the were Protestants-fled across the Channel, and thus the industry was started in England. The Flemish weavers first settled in Bristol, but the knowledge of the art soon spread to northern towns, and notably to Kidderminster, Dewsbury, and Glasgow. The chief varieties of Cs. are the Brussels, Wilton, Persian, Tur-

key, Kidderminster, and Axminster.

Brussels carpet.—This C. is composed of a mixture of linen and worsted, the cloth or reticulated part of the structure being entirely of linen, and the worsted only showing plete, the wires are removed and the remaining loops give a soft pile and make the figured surface of the C Brussel Cs. were introduced into Kid-derminster from Tournay in 1745.

dates from very early times. They are thicker and softer than ordinary carpets, are of great durability, and are renowned for their beautiful de-

They are made by knotting woollen yarn on warp threads, the tufts thus formed being firmly held in place by the woof yarn. Old Persian Cs. are highly prized, and are

of great value.

Turkey carpets.—These are somewhat similar to Persian Cs., being made in the same fashion, but their designs are stiffer and more geometrical in character. The colouring is very rich. The industry flourishes chiefly at Ushak in Asia Minor; Cs. of the same kind were formerly made at Axminster (1755-1835), and are still made at Wilton.

Kidderminster carpet. — This is made in the greatest quantities in Scotland and Yorkshire, and is the oldest kind of machine-made C. It is made by the intersection of two or more cloths of different colours, woven in stripes of different shades. They are made in layers, and are called accordingly two-ply or threeply. The back of the C. is of exactly the same pattern as the face-side, but the same pattern as the face-side, but the colours are reversed. There is no

being made in one piece according to the dimensions of the room for which it is required. They resemble Turkey Cs., and are made in tufts of coloured worsted or woollen tied under the being warp, the linen threads rammed down and concealed. As is the case with Turkey Cs., the diffi-As is culty lies in changing the colours so as to form the required pattern. In 1839 Mr. 1839 Mr. Templeton of Glasgow patented a method of making Cs. patented a method of making Cs. with a chenille. The chenille is woven on a separate loom, cut into strips and bound into tutts, and is then woven into the C., being used as the weft thread. Royal Arminsters do not require the chenille to be woven the tufts are cut by separately; machinery, and are threaded into the C. by the linen weft.

Seals of manufacture.—Brussels and velvet pile Cs. are largely made at Kidderminster, and also at Durham and Halifax. Kidderminster come from Kilmarnock and Bannockburn in Scotland, and from Dewsbury and other places in Yorkshire. a small quantity is made in Kidderminster itself. The finest Persian Cs. are made at Kurdistan. The patent chenille Axminsters are made to a large extent in Glasgow. In the United States, Cs. are chiefly manufactured in Philadelphia, where the first factory was established in 1791, and in Lowell. The most famous French Cs. are the Savonnerie, made in Paris, and the Aubusson Cs.

Consult Martin, History of the Oriental Carpets before 1800, 1906-8; Hendley, Asian Carpets, 1905; and The History and Manufacture of Consult Martin,

Floor-coverings, New York, 1899. Carpet Bedding, in gardening the

thrift, echeverias, saxifrages, or box, so arranged as to resemble a figured carpet. The patterns are usually geometrical designs, but sometimes birds, butterflies, or other objects are represented. This style is not so popular at present as it was some fifty years ago, owing to its extreme formality (cf. Dutch gardens with clipped box or yew-trees). The soil is banked up for the dwarf-plants to becomes inert. bring them to the same level as the taller growers, and present an even surface throughout.

Carpet Knight, originally Knight of the Carpet, or Green Cloth, as distinguished from one dubbed in the battlefield. Later applied contemptuously to knights who enjoy ease and luxury, shirking a soldier's hardships.

in 1755. It is usually made to order, A drawing-room hero, stay-at-home

Soldier, or an effeminate person.
Carpi: 1. Com. and tn., prov. of
Modena, Emilia, Italy, 9 m. N.N.E. of
Modena. It has a castle, two cathedrals, and a fine Renaissance church of the 15th century, also the bishop's palace. Silk industries thrive. Pop. (commune) 23,000. 2. Village on R. Adige, 28 m. from Verong, where Prince Eugene defeated the French in 1701.

Carpi, Ugo da (1450-1523), Italian painter and engraver, claimed to have discovered the art of chiaroscuro painting, but recent research has proved that certain Germans had practised the art before his day. C. used three blocks in his famous engravings after Raphael.

Carpin, a tn. of Scotland, in the co. of Lanarkshire. Its chief industry is

mining. Pop. about 2000.

Carpineto, a tn. of Italy, prov. of Rome, about 37 m. from cap. Birth-place of Pope Leo XIII. (1810-1903). Pop. 4800

Carpini, a tn. of Italy, in the prov. of Foggia, 22 m. N.E. of San Sovero.

Pop. 7000.

Carpini, Johannes de Piano, born in Umbria, W. Italy, 1220, was a Franciscan traveller. He was sent to China by Pope Innocent IV. at the head of an embassy to negotiate with the Mogul powers, and to use his diplomacy to turn them from their intention avowed of devastating Europe. He set out from Lyons in April of 1245, and returned the follow-Europe. ing summer. He had a genius for recounting his adventures, and Hakluyt has incorporated them in his Navigations and Discoveries.

Carpinus, a genus of Betulacere which is known in Britain as the name of a certain formal arrange hornbeam. C. betulus, the common ment of beds, adorned chiefly with hornbeam, is common in copses, and is frequently pollarded by farmers; it is used on the Continent as fuel and for making handles of tools, but is of little value as timber. The flowers are in male and female catkins, and the fruit is a one-seeded nut.

Carpobalsamum, the name given both to the dried fruit and to the oil obtained from the fruit of Commiphora opobalsamum, a species of Bur-seraceæ which yields balm of Gilead. The oil is aromatic and volatile, and should be used while fresh or it

Carpocrates (Καρποκράτης, or Κάρπο· spas), a celebrated Alexandrian Gnostic, probably of Hadrian's reign (A.D. 117-38), who flourished in the 2nd century and founded the sect of Carpocratians, who existed as late as the 6th century. They were avowed eelectics, taught that Christ was a human being of pre-eminent goodness, and that the world was created. Gazette, 1873. C. organised various by angels. The Supreme Deity was picture exhibitions. He is director the Monas. They believed in pre- and one of the founders of the New

Carpology (Gk. καρπός, fruit, λόγος, the name given to the division of botany which comprehends all that relates to the structure

of the fruit.

Carpophore (Gk. flower, Eastos. cépeu, to bear), a botanical term used to indicate the prolonged axis of a flower which passes up between the carpels to the top, and which serves to attach the carpels to the plant when they have split apart, e.g. in a siliqua. Examples occur in the Umbelliferæ, Geraniaceæ, and Rosaceæ.

Carpus (Gk. καρπός, wrist), in anatomy, the series of bones between the forearm and hand. In man there are eight small bones in two irregular rows of four. The upper row articulates with the radius, the lower with the metacarpal bones of the hand, Rudiments of carpal bones are found

in all mammals.

Carpzov, Benedict (1595-1666), a most able German jurisconsult, son of B. C. (d. 1624). Privy-councillor to the elector of Saxony, and author of Practica nova rerum criminalium, 1635; Definitiones forenses, 1668, and other works. See Lange, Predigt bei der Leichen-Bestattung B. Carpzovii. 1667; Kromayer, Programma in B. Carpzovii funere, 1666.

Carpzov, Johann Benedict (1639-99), son of preceding, distinguished Orientalist: professor of Hebrew at Leipzig. Wrote treatises on sacred philology. See Jöcher, Allgemeines Gelehrten-Lexikon; Cyprian, Programma in funere J. B. Carpzorii, 1699; Crell, Oratio F. B. Carpzorii Memoriæ

Sacra, 1700.

Carr, John (1721-1807), an architect. called C. of York, born at Horbury. near Wakefield. He made his reputation as an architect of the Palladian School, the court-house, castle, and gaol at York. Newark Town Hall and the parish church of Horbury were built according to his designs. Though of humble origin, he was twice mayor of York, and died worth £150,000.

Carr, Joseph William Comyns, Engfish art critic and dramatist, born 1849; educated at London University; barrister of Inner Temple, 1872. He was one of the editors of the Academy. Saturday Review, and Exdemy, Saturday Review, and Ex-aminer, founder and late editor of the English Illustrated Magazine, He became English editor of L'Art, 1875, and art critic on the Pall Mall

zeristence of the soul, and worshipped Gallery, Regent Street, where many Zoroaster, Pythagoras. Plato, and of Burne-Jones's works were first others, as well as Christ, as beneface exhibited. Among his publications others, as well as Christ, as beneface exhibited. Among his publications tors of mankind. See Milman, History are: Drawings by the Old Masters, of Christianity, ii.; Matter, Du 1877; The Abbey Church of St. Groslicisme, 1838.

Garneley (Gl. Matter, Du 1878; Examples of Constitution (Grandley (Gl. Matter)). temporary Art; Essays on Art; and Papers on Art, 1883-4; Modern Landscape. As a dramatist he adapted Hardy's Far from the Madding Crowd, was joint-author of Called 1882; Back. 1884; Dark Days: Together; In the Days of the Duke. C. also wrote A Fireside Hamlet; The United Pair; Forgiveness; King Arthur; Some Eminent Victorians. and has adapted many plays for the stage. Managing director of Lyceum. 1902-4.

Carr (or Ker), Robert, Earl of Somerset (d. 1645), politician, of Scottish birth, worthless favourite of James I. of England. In 1603 he accompanied James to England as page. In 1604 C. broke his arm in a tilting-match before the king. His appearance pleased James, who substituted a favourite for a constitutional adviser, and loaded him with honours. Knighted 1607; Viscount Rochester, 1613. C. married Lady Essex, after properties for diverse for ferri procuring her divorce from her first husband. Somerset's influence began to wane before that of Villiers. 1615 he was implicated in his wife's poisoning of Sir Thomas Overbury (1613). Bacon conducted the prosecution as attorney-general; both earl and countess were condemned to death, but received the royal pardon. See Gardiner, History of England, il. 1889; Dict. of Nat. Biog., ix.; Amos. The Great Over of Poisoning, 1846.

Carraci, see CARACCI.

Carrageen Moss, otherwise known as Irish or Sea-Moss, the edible sea-weed technically called Chondrus crispus, found on rocky shores of N. Europe and N. America. It is reddishbrown in colour, two to twelve inches long, and repeatedly forked. After it has been collected it is bleached in the sun and dried, when it is ready to be When boiled in fresh water or milk it yields a pleasant drink, or can be made into jelly. It is also used for making size, stuffing mattresses, and feeding cattle.

Carranza, Bartolomaeus de (1503-76), a Spanish priest, born in Navarre, He entered the Dominican Order, and became professor of theology at Valladolid. Charles V. sent him to the Council of Trent, 1546, and he also sat in that of 1551. He accompanied Philip II. to England, and became Queen Mary's confessor, working noon, ne was accused of heresy by the Inquisition, nominally owing to his Comentarios sobre cl Catechismo Cristiano, 1558, and spent the rest of his life in prison. See Prescott, History of Philip II. (vols. i. and ii.); Laugwitz, Life, 1870; Salazar de Mendoza, Vida y Sucesos de B. de Corranga Missada 1728

Carrara

Carranza y Miranda, 1788. Carrara, a tn. in W. Italy, on the Carrara, a tn. in W. Italy, on the Avenza, is famous for its marble quarries, which have been worked for over 2000 years. The supply seems inexhaustible, though much has been wasted by the use of primitive machinery, 500,000 tons being quarried to produce 150,000 tons exported. The marble used for sculpture is peculiarly white and flawless and of great durability, but few of the numerous quarries produce this variety. Nearly all the surrounding heights are of marble, and mountain heights are of marble, and mountain railways are taken half way up the mountain sides to serve the quarries. The material for building the Pantheon of Rome was taken from C. The town contains many fine marble churches and an academy for sculp-ture, founded by Napoleon. There is also a cathedral begun in imitation of that of Pisa, but unfinished. C. is quite near to the site of ancient Luna, a celebrated Etrurian city. It is the seat of a district court.

Carrara, Da, the name of an Italian family whose history is united with that of Padua and the neighbouring provinces during the middle ages. They appear to have been of Longo-

bard extraction :-

Marsilio da Carrara (d. 1338), re-belled against and was defeated by Cane della Scala, lord of Verona, but always maintained his independence.

Francisco da Carrara (d. 1393), became lord of Padua in 1355. He was forced to abdicate by the Venetians in 1388, and died in imprisonment in the castle of St. Colomban.

Francisco da Carrara (d. 1404), succeeded in recovering Padua from the Venetians in 1300, but was defeated and slain fourteen years later. Carrel, Nicolas Armand (1800-36), a fanous French journalist and publishments.

licist. On the outbreak of war in Spain (1823), he resigned his position joined the volunteers

Spanish Liberals. prisoner, but released

l'Histoire de la Grèce moderne, Ré-sumé de l'Histoire d'Ecosse, Histoire wagon), a means of carrying; any de la contre-révolution d'Angleterre, vehicle intended to convey goods

zealously to establish Catholicism. In 1830 C. founded the National Chosen Archbishop of Toledo about 1556, he was accused of heresy by the Liberal opposition, becoming chief Inquisition, nominally owing to his editor after the revolution of July. Comentarios sobre cl Catechismo Cristiano, 1558, and spent the rest government, and uttered an inclining of Philip II. (vols. i. and ii.); Marshal Ney. Though moderator, Lauryvitz Life 1870: Salazar de as well as leader of the nomular as well as leader, of the popular party, he was imprisoned by Louis Philippe's government for his writrninppe's government for ins which ings. He was killed in a duel by the editor of the Presse. A statue was erected to him, 1887, at Rouen. See Nisard's article in Revue des Deur Mondes, Oct. 1, 1837; Boelscher, Zurei Republikaner, 1850; Nouvelle Biographie Generale. Carrel's Œurres

Biographie Générale. Carrel's Œures Politiques et Littéraires (5 vols.) were edited by Littré and Paulin, 1857-8. Carrer, Luigi (1801-50), an Italian lyric poet and scholar, native of Venice. He gave up the law for literature, becoming professor of philosophy at Padua, 1830; secretary of the Istituto Venets, professor of belles-lettres in the Scuolo Tecnica, and finally director of the Venice Museo Cover. His prose works in-Museo Correr. His prose works in-clude a study of Goldoni's life and writings, and a life of Foscolo, whose verse influenced him greatly. C. planned a Biblioteca Classica of the best Italian writers in 100 vols., but only twenty-seven appeared. These were highly praised. His poems included idylls, epigrams, sonnets, hymns, and tragedies, but the best are ballads (introduced from Germany) and odes. These placed him many) and odes. These placed him in the first rank of Italian lyrists. Poetry appeared in 1832; Prose and Poetry, 1837; Ballate, 1838; Apolophi, 1841; Odi politichi e sonetti, 1868. His famous L'anello di sette genme (1838) told in poetical form the history and customs of Venice. In 1836-8 C. superintended the publication of Il Novellista Contemporaneo Italiano e Straniero. For his Life consult Veludo. 1851: Venanzio. consult Veludo, 1851; Venanzio, 1855; Crespan, Della Vila e delle Lettere di L. Carrer, 1869; Sartorio, L. Carrer, 1900.

Carrhæ, an anct. city of Mesopotamia, about 25 m. from Edessa, the Haran of the Bible and Assyrian inscriptions. The crushing defeat of Crassus by the Parthians in 53 B.C., when the Roman standards were lost, of sub-lieutenant in the army and is frequently mentioned in classic

> . an island of the British nd the largest of the being 8 m. long, and i. wide. Cotton is grown. on the W. coast, is the

but especially passengers, by road or; fessional purposes. £3 18s. is the duty rail. Hence railway-carriage, hack-ney-carriage, gun-carriage, and various other compounds. Cs. are structures on two or more wheels, and vary greatly in size and shape. Possibly they were first developed from the Egyptian sledges and rollers, used the Egyptian sieuges and romers, more for conveying heavy loads. Chariots were known also to the ancient tenedites. Greeks, and Romans, chariot-racing being a favourite sport at the public games of Greece and Rome. The covered C. of to-day dates from about the 15th century. In 1555 the first English C. (excluding the war-chariots of the ancient Britons) was made by Ripon for the Earl of Rutland. By the 17th century they were much red, and order it is confus-cially a dien Come does replaced by the least in 1829. The hancement was introduced in London in 1834. Other two-wheeled Cs. are the stanhope, tilbury, gig, and dog-cart. 18th century many improvements were made, the body was suspended on straps, attached later to C.-springs. The use of the private four-wheeled C, drawn by one or more horses (often the 'carriage and pair, with two horses) was especially marked during the Victorian era. The brougham was introduced in 1839, other types being the landau, victoria, and four-in-hand. Open four-wheeled Cs. are the phaeton, waggonette, and brake. The drag and the omnibus have seats both outside and in. Cs. have various different special names in different parts of the world, but the world is commonly used in England of the four-wheeled, private, horse-drawn vehicle. All horsed conveyances are being rapidly replaced now or taxi-cabs.

See Burgess, oach-Building, of Coach-Building, 1877; works by Ware (1875) and Stratton (1878). See also CAB, CART, COACH. Carriage-building, see COACH-BUILD-

ING.

Carriage Dog, see DAIMATIAN DOG. Carriage Licences. The rates for local taxation licences in respect of Cs., motors, or motor-drawn vehicles are as follows: for horse-drawn or mule-drawn Cs. with four or more wheels, £2 2s. it to be drawn by two or more horses, £1 1s. if by one horse only; Cs. with less than four wheels and hackney Cs. 15s. The rates for more as a graduated seconding to motors are graduated according to the horse-power of the motor car, and range from £2 2s. for a car not exceeding 61 h.p. up to £12, where the car exceeds 60 h.p., with an exemption of half the duty in the case of cars used by medical men for pro-

for a ha-2 tons but not weight: £2 17s. ot over 2 tons; and 15s. not exceeding 1 ton; exceeding 5 tons, 15s., there being higher light locomotive duty to be taken into consideration in the case of heavy vehicles.

Carrick is one of the three divisions of Ayrshire, Scotland. Earl of C. Is the Prince of Wales' title as Steward

of Scotland.

Carrick, Thomas Heathfield (1802-75), English miniaturist, born near Carlisle, educated at the grammar school there; a self-taught artist. He neglected his chemist's business for painting. In 1836 he moved to Newcastle; 1839 to London. From 1841-66 exhibited annually miniatures. Among the most famous are those of Carlyle, Sir R. Peel, Rogers, Wordsworth, Longfellow, Charles Kean, Farren. Macready, Daniel O'Connell, and Robert Owen. In 1845 awarded a medal for his invention of painting miniatures on marble: awarded the Turner annuity by Royal Academy about 1868. See Royal Academy Catalogues (1841-66).

Carricklergus, a scaport tn. and parl. bor. in co. Antrim, Ireland, is situated on Belfast Lough. William II. landed here just before the battle of the Boyne. The castle of C., dating back to the 12th century is still used as a fortress. Flax spinning and oyster fishery are the chief industries.

Pop. of town, 4500; borough, 9000. Carrickmacross, a market tn. of Ireland in the co. of Monaghan, with manufactures of leather and boots, and a trade in grain. Pop. 2000.

Carrick-on-Shannon, a river port and market tn. of Ireland, situated on the Shannon in the co. of Leitrim, 37 m. S.E. of Sligo. There is trade in shipping, dairy produce, and corn. Pop. 2000.

Carrick-on-Suir, a tn. in co. Tip-perary, Ireland, is connected with Carrickbeg in Waterford by a bridge over the Suir. It has an ancient castle and parish church. Woollen manufacture is the chief industry

Pop. 5400. Carrier, Common, one who under-takes for hire to carry goods or passengers from one place to another either by land or water. He is dis-tinguished from the 'private C.' by being ready to accommodate the public generally, and has different responsibilities in law. Examples of land Cs. are stage-coach proprietors, railway companies, waggoners, firms such as Carter Paterson, Pickford, Beau, and others; carriers by water are owners of steamships, ferry-boats, and the like. A common C. of goods fixed 1

taken for his charges. He is in the eyes of the law responsible for all acts tract, he is responsible for all goods entrusted to him until they have been delivered, and must make good any loss of damage occurring through any cause except 'the act of God, or the public enemy '(in the narrowest signification). These stringent rules exist to guard the interests of employers, and prevent their being entirely at the mercy of the C. If goods are to be warehoused with Cs. for a time previous to carriage, extraordinary liability is not incurred by them until the actual time of carriage, though of course ordinary care and precautions must be taken. In England if a number of Cs. are engaged in the transfer of goods, the first is held liable as insurer, as being the party with whom the contract was originally made. Personal delivery is originally made. Personal delivery is expected of land Cs. Water Cs. can only take goods to the wharf, but notice must be given of the vessel's arrival and discharge of cargo. special contract may be entered upon for the carriage of goods, but no C. can exempt himself from liability for goods not mentioned in the Carriers Act by a mere printed notice that he refuses to hold himself responsible. A refuses to hold himsen responsive definite contract signed by the employer is essential before the C. can ployer is essential before the can ployer is essential before the can be a supposed builties as insurer. certain exemptions from liability to common Cs. by land. A ship owner's also remarkably good. There is a liabilities are much the same, except as limited by the Merchants Shipping C., 1898, and in the Hötel do Yillia afficightment. Act, 1894, and by the contract of affreightment. A railway is not counted as a 'common C.' Hence, in the event of accidents, the company is only liable if negligence can be proved. By the Railway and Canal Traffic Act of 1854 liability as to animals was limited. Passenger Cs. are not responsible for mishaps caused or those who have some contagious the poem, Associate, 1858, Dec. Associated disease. They are responsible for all ner Dom als freie deutsche Kirche, baggage entrusted to their care, as common Cs. of goods. See Angell, On Die Religionen in ihrem Begriff, 1841; Common Carriers; Redfield, On Geschmack und Gewissen, 1882; Railways; Sedgwick or Mayne, On Kunst und Kulturentwicklung... Damages; Macnamara, Law of 1863-74 (5 vols.): Die Poesie, ihr

must take any except specially Carriers, 1908; Hutchinson, Treatise dangerous articles to the place to on the Law of Carriers, 1891; Ray's which he professes to carry goods. A Negligence of Imposed Duties, Carriers, 1891; Ray's carry goods. riers of Freight, 1895, Carriers of

made
made

Passengers, 1892.

Carrier, Jean Baptiste (1756-94),
wise the C. has a lien on the goods a French revolutionist of infamous memory, born at Yolai. Elected to the Convention, 1792, he helped to of his employees. Also, unless his form the Revolutionary Tribunal, liability be limited by a special convoted for the death of the king. devoted for the death of the king, demanded the arrest of the Duke of Orleans, and assisted in overthrowing the Girondists. C. was sent to Nantes. 1793, to repress the civil war started by priests and Royalists in La Vendée. He massacred over 16.000 Vendeau and other prisoners without trial, sparing neither women nor children. Many were crowded into boats and sunk in the R. Loire ('Republican baptism'); others were shot down or guillotined. After Robespierre's fall, justice was demanded against this fendish Locabin and other tried by fiendish Jacobin, and after trial by the Paris tribunal he was guillotined.

See De Barante, Mélanges; Nouvelle Biographie Générale. Carrière, Eugène Anatole (1849-1906), French genre painter, born at Gournay-sur-Marne, lived at Paris. Pupil of Cabanel; medal, 3rd class, 1885. Called by Edmond de Gon-1885. Called by Edmond de Goir court the modern Madonna painter, for his frequent treatment of maternity. Among his works are the 'Young Mother,' 1879 (at Avignon). 'The Nymph Echo,' 1880; 'Kiss of Innocence,' 1882; 'Two Friends;' nity. The Nymph Echo, 1880; 'Kiss of Innocence,' 1882; 'Two Friends;' 'Marguerite,' 1884; 'Sick Infant', (at Montargis); 'The Favourite,' 1885; 'Theatre de Belleville;' 'Christ on the Cross,' 1897. His famous 'Maternity,' 1892, is in the Luxembourg, Paris. His portraits of Dandet. He Goncourt Anatole

C., 1898, and in the Hôtel de Ville, Paris. See *The Studio*, 1896. Carrière, Moritz (1817-95), a Ger. philosopher and writer on aesthetics; studied at Giessen, Göttingen, Berlin, and in Italy; 1849 professor of philosophy at Giessen; at Munich, 1853. At first a Hegelian, he later followed the system of Fichte more closely. He also ranked high as an art critic. by the passenger's' contributory neg-by the passenger's' contributory neg-ligence.' They must accept as pas-sengers all who comply with their Latin; Die philosophische Weldars-rules (as to tickets, use of cars, etc.), chauung der Reformationszeit, 1841; except people of disorderly behaviour Die letzte Nacht der Girondisten, 1849 or those who have some contagious (a poem); Asthetik, 1859; Der Köldisease. They are responsible for all ner Dom als freie deutsche Kirche,

Wesen und ihre Formen, 1884 (2nd on the plains in the West till 1868. ed.). See Gesammelle Werke, 1886-91 In 1869 professor of military science (13 vols.).

Carrier Pigeon, a variety of the family Columbidee, and is remarkable for the huge white wattle round the eyes and at the base of the beak. is essentially a fancy bird, and the messenger pigeon proper is called the homer.

New ' burbof South

Wales. Large foundry and engineering works. Pop. about 2600.

Carrington, Charles Robert Wynn-Carrington, first Earl, joint-heredi-tary Lord Great Chamberlain of England. b. 1843; educated at Eton and Cambridge. M.P. for High Wycombe, 1865-8; captain of the Royal Body-guard, 1881-5; governor of New South Wales, 1885-90. Created an 1892-5 Earl. 1895; from Lord Chamberlain the οf Household. Chairman of the National Liberal Club, and an energetic member of the L.C.C. Chosen ambassador, 1901. to announce King Edward's accession President e to foreign sovereigns. Board of Agriculture since the Campbell - Bannerman's administration, 1905.

Sir Frederick, Major-Carrington, Sir Frederick, Major-General, English soldier, b. 1844, educated at Cheltenham College, entered the army in the 24th Regiment, 1864. He commanded the Light Horse in the Transkei War, 1877-8; led the colonial forces against the Sekukuni in the Transvaal, 1878-9; and in the Basuto War, 1881. Commanded the native levies in the Zulu rebellion, and was commandant of Bechuanaland police, 1893; becoming also military adviser to the High Commissioner in the Matabele War. In the South African War (1899 - 1902) he commanded the Rhodesian Field Force, helping with Mahon to raise the siege of Mafeking, 1900. K.C.B., 1897; commanded infantry at Gibraltar, 1895-99.

Carrington, Henry Beebee, American soldier and military historian, born in Connecticut, 1824, graduated at Yale, 1845, studied law at Yale Law School, 1847. Professor in New Haven Collegiate Institute, 1848-61; practised law in Columbus, practised law in Columbus, Onto.

1857 on the staff of Governor Chase, drawn by oxen, used by the mediaveal helped to organise the state militia. He crushed various Indian risings, banner into battle. On a rectangular At the opening of the Civil War C. was platform, painted red, was set the colonel of the colonel of the Infantry, 1861, s

adier-general of posed the 'Sons of Liberty,' com-posed the 'Sons of Liberty,' com-soldiers in the army, was regarded manded the district of Indiana, also both as a rallying-point, and as the Rocky Mts. district. After the end of palladium of the city's honour. Its thewar he joined his regiment, serving capture was considered the deepest

Cherokees. Life-member of American Historical Association, and trustee of Marietta College. Among American many works are: Classics; Russia as a Nation, 1849; Absaraka, Land of Massacre . . . : History of the Battles of the American Revolution, 1876; The Washington Obelisk and its Voices, 1887; Washington the Soldier; Lafayette and ington the Soldier; L. American Independence.

in Wabash College; 1890 took de-tailed census of the Six Nations and

Carrington, Richard Christopher (1826-75), English astronomer, educated at Cambridge; from 1849-52 observer at Durham University. After 1852 he conducted various private observations (especially of the minor planets, fixed stars, and the sun), mostly at his private ob-Surrey. Secretary of Royal Astronomical Society, 1857-62; F.R.S. l Society, 1857-62; F.R.S. He published Catalogue of 1860. 3735 Circumpolar Stars, 1857; and Observations of the Spots on the Sun. which greatly influenced the study of solar physics.

Carrion Crow, or Corvus corone, a British species of Corvidee, and is closely connected with C. cornix, the hooded crow. In S. America and the United States the name is given to Catharista atratus, the black vulture, a species of Cathartide which greatly resembles the turkey-buzzard. colour of this bird is black, and its naked head is also dark of hue. Both species act as scavengers, but the former will also attack young living

animals. Carrion Flowers are those which attract short-tongued flies by means of their meat-like appearance or their feetid smell and so become pollinated. Two such species are $\Delta morphophallus$ Tilanum and Arum maculatum, both belonging to the order Aracew. They belonging to the order Aracew. both emit a very disagrecable odour, and the former is of a red and vellow colour which serves as an additional attraction. The genus Stapelia, which belongs to the Asclepiadacce, has the same property to induce flies to fertilise its flowers, and the flowers themselves are of a dark red colour.

Carroccio, a large war-chariot

priests held services before battle. was surrounded by the bravest

entrusted to the care of some family who had rendered great services to the republic. The Scots at the 'Battle of the Standard' (Northallerton), 1138, followed the Italian custom. See Villani, Chronache, vi. 1925-6.
Carrodus, John Tiplady (1936-95), English composer and violinist, born in Yorkshire, studied at Stuttgart; purpl of Mollowe 1848-53. His first

pupil of Molique, 1848-53. His first appearance as a soloist was at a concert of the Musical Society of London, 1863. He held a high reputation as soloist and quartet player for many years, appearing at the Philharmonic, Crystal Palace, and other leading concerts. He played in the Covent Garden orchestra, and was leader of the opera-band for many years. He published two violin solos, a Morceau de Salon, and edited some violin duets.

Charles, of Carrollton Carron, Charles, of Carrondon (1737-1832), American patriot, born in Collingwood's Life and Lellers of Maryland, educated at Jesuit Col-Lewis Carroll, 1893. Bowman, The leges of Saint-Omer, Rheims, and Slory of Lewis Carroll, 1893. leges of Saint-Omer, Rheims, and Louis le Grand, studied law in Paris and London. He returned to America, 1764, inheriting a large estate. In 1775 member of the 'Committee of Observation,' and elected delegate to the Provincial Convention. In 1776, America. C. was sent to persuade the Canadians Carron C. was sent to persuade the Canadians to war against England, and was lingshire, Scotland, on the riv. C., is delegate to Congress. He was the last celebrated for its old established from delegate to Congress. He was the last dary commission. In 1810 he retired from public life. See Latrobe's Life, 1824: Mayer. Journal of Carroll. 1524; Mayer, Journal of Carroll . . .

to the Declaration of Independence; Rowland's Life, 1898; Maryland

Gazette, 1773.

and Oxford. He took a first in mathe mortars. Only small charges of matics, 1854; took orders, 1861; and powder can be used, and they are of was mathematical lecturer at Christ ishort range. Smaller long range guns Church, 1855-81. He lived a retired have rendered them obsolete. Church, 1855-81. He lived a retired mate rendered them obsolete. life at Oxford, but delighted in the Carron Oil, limewater and linseed company of children, especially girls. oil mixed in equal proportions, as a A few of his witty pamphlets on dressing for burns. The name is demirersity affairs were collected and rived from the Carron Foundry in known as Notes by an Oxford Chiel Scotland, where, from its frequent use 1865-74. His mathematical specula- in the fromworks, its reputation was those word intricate and inventors made.

humiliation. First used by the of Plane Algebraical Geometry, 1860; Milanese, 1038, it later played a large Guide to the Mothematical Student; part in the wars of the Lombard An Elementary Treatise on Determileague against Emperor Frederick nants, 1867; Euclid and his Modern Barbarossa. The Milan C. was lost in Rivals, 1879. His fame rests chiefly the battle of Corte Nuova, 1237. The on Alice's Advantures in Wonderland, first Florentine one appeared in battle 1865, and its continuation, Through 1228. In times of peace the C. was the Locking-Glass, 1872, both illusentrusted to the care of some family trated by Tenniel. These books are still the delight of children and grownups alike. They are full of whimsical fancies, grotesque absurdities, and unforgettable remarks and incidents. They originated a unique literary genre, and have become widely-read genne, and nave become widely-read classics, having been translated into various tongues. Miss Marion Terry was the original of 'Alice.' The first dramatised version appeared in London, 1886, but the play of neces-sity loses much of the charm of the book. Other works are Phantasmagoria, 1869; Hunting of the Snark, 1876 (humorous verse); Doublets, 1879; Rhyme? and Reason? 1883; A Tangled Tale, 1886; Game of Logic, 1887; Sylvie and Bruno, 1889 F--iss); Curiosa ; Symbolic is of Parlia-1884. See

Carrollton, formerly a post-vil. of Jefferson par., Louisiana, on R. Mississippi, now suburb of New Orleans, U.S.A. Also various banking towns and post-villages of North

surviving signer of the Declaration of works. Carronades and other guns Independence. In 1789 United States were made here till 1852, when more senator for Maryland: 1799, member modern armaments superseded them of the Maryland and Virginia boun. Now, an extensive manufacture of stoves, grates, and boilers is carried on, which supports almost the entire village.

. Carronades, short cast-iron guns. attached to the carriage by loop and bolt instead of trunnions, were invented in 1752 by General Robert Melville, and made at Carron by Mr. Gascoigne for use in the navy. The Carroll, Lewis (1832-98), nom-de-flame of Charles Lutwidge Dodrson, metal is not so thick as that of most English mathematician and author, guns of the same calibre, and the born in Cheshire, educated at Rugbr, powder chamber is at the muzzle, like

tions were intricate and ingenious made. It is a soapy, thick mixture, Among such publications are Syllabus now often replaced by neater dress-

See Burns.

Carrot, a plant of the genus Daucus and order Umbelliferæ. The common C. (Daucus carota), originally a native of the East, has been naturalised in plant. In Eastern U.S.A. it is often between the Tay and the Sidlaw Hills a pernicious weed. The root of the cultivated variety is much thicker and pleasanter in taste then the Tay and the Sidlaw Hills and pleasanter in taste then the cultivated variety is much thicker and pleasanter in taste then the cultivated variety is much thicker and pleasanter in taste then the cultivated variety is much thicker and pleasanter in taste then the cultivated variety is much thicker and pleasanter in taste then the cultivated variety is much thicker and pleasanter in taste then the cultivated variety is much thicker and pleasanter in taste then the cultivated variety is much thicker and pleasanter in taste the cultivated variety is much thicker and pleasanter in taste the cultivated variety is much thicker and pleasanter in taste the cultivated variety is much thicker and cultivated varie and pleasanter in taste than that of the wild. The leaves are pinnately compound, the flowers creamy-white to pink or purplish in the central ones. The foliage is beautiful for decorative purposes, and in Charles I.'s reign ladies sometimes even wore the leaves instead of feathers. troduced into England early in the 16th century, it forms an article of food both for cattle and for man. The roots are also used for poultices. Cs. contain colouring-matter used

o colour butter. ives the largest white root, pale

These are interior to the red varieties for nutritive A deep, sandy soil, welldrained and deeply trenched, suits best. It should be prepared and manured in autumn. The main crop is sown from late March to April. The plants must be thinned out after sowing and kept free from weeds. During the winter the roots may be stored in a cellar or shed. Long-rooted kinds need about 3 ft. of soil; short horn varieties do in 6 in. of good compost on top of poorer soil. Carruthers, Robert (1799-1878),

Scottish journalist and miscellaneous writer, born at Dumfries. In his youth he was apprenticed to a bookseller, becoming editor of the Inverness Courier, 1828, and proprietor, 1831. His best-known works are his edition of the Parker his edition of The Poetical Works of Alexander Pope, 1853 (4 vols.), which met with much favour, and Life of

Carse, a Scottish term for low, carson chy, cap. of five adjoining rivers, ex- and the county town of Ormsby, 121 amples being the C. of Gowrie, C. of m. N.E. of Sacramento, on the Vir-

ings, such as a solution of bicarbon- Falkirk, C. of Stirling. C. soils are ate of soda and a thin smearing of usually very fertile, consisting of vaseline, or oxide of zinc ointment. argillaccous deposits, but sometimes they are barren clays.

Carsebreck, the great Scottish curling entre, 11 m. by rail from

Stirling.

Carshalton, a par. and vil. of the Wimbledon division of Surrey, England, 3 m. from Croydon, on London. Brighton and South Coast Railway. Has flour and paper mills. Pop. about 6800.

Carsoli, a city of Italy, on the site of the ancient Carsioli, 40 m. N.E. of Rome. There are extensive vine-

yards. Pop. 5000. (1809 - 68).familiarly known as 'Kit' Carson. American trapper, guide, and soldier. He emigrated from Kentucky to Missouri as a hunter and trapper. His knowledge of Indian languages and habits made him excellent as a guide in Fremont's Rocky Mts. explora-tions. 1842-4. C. served under Fremont during the conquest of California, 1846-7, and settled in New Mexico, 1854, becoming United States Indian agent at Taos. For his services in the Civil War he was breveted brigadier-general. He died at Fort Lynn, Colorado. See Burdette's Life, 1869; Peter's Life, 1874.

Carson, Sir Edward Henry (b. 1854), living lawyer, the son of Edward C., C.E. of Dublin, was educated at Portarlington School and Trinity College, Dublin. Here he obtained his M.A. degree, and later the honorary distinction of LL.D. Since 1892 he has continually represented his university in Parliament as a Con-servative. His advancement as bar-rister has been exceptionally rapid. In 1894 he was appointed Queen's Counsel at the English bar, having neld that office at the Irish bar since is seen as solicitor of the Literature. Chambers on his Bowdlerised Household Edition of Shakespeare, 1861-3. Other works are: History of 1824; Poetry of Millon's The Irish bar, having land and in 1892, he became Solicitor-General in 1900, retaining the position till 1906. In 1896 he became Privy Councillor for Ireland and in 1905 an English Privy 1824; Poetry of Millon's The Irish and Irish and Irish Irish

Works are: History of 1824; Poetry of Millon's e of the most enthusiastic The Highland Notebook 1, and in 1912, as a violent an annotated edition 1, and 1912, as a violent Ajournal of a Tour in 6. Ruler, he gained great Journal of a Tour in 6. Ruler, he gained great Journal of W. and R. of Ireland, and successfully engineered the Signing of the Covenant, Aird's Poetical Works, ed. by Wallace, which was a great Protestant and Orange demonstration.

Orange demonstration.

Carson City, cap. of Nevada, U.S.A.,

industry is agriculture, and it is the painting. centre of a mining district. 2100.

Carstairs, a par. 34 m. E.N.E. of Lanark, on the Caledonian Railway. in the S. of Lanarkshire, Scotland.

Pop. less than 2000.

William (1649 - 1715).son of a minister of Cathcart, near who had been taken prisoner at the battle of Dunbar by Cromwell and exchanged, was educated by Sinclair, minister of E. Lothian, a renowned student, and afterwards at the college of Edin-

and in order to secure quiet and safety he sent his son to Holland to complete his studies. There he There complete his studies. studied under the most celebrated professors, and was probably or-dained in the Dutch church. He also made the acquaintance of William of Orange, and became his confidential adviser. In 1672 he came to London, and was arrested by Lauderdale on petty charges of creating disturbances. Nothing was proved against him, but he was kept a prisoner in Edinburgh Castle for five years. He returned to Holland, and from there made frequent visits of investigation. acting as agent between English and

really did not uphold, he was arrested and again imprisoned in Edinburgh. where, under torture, he revealed information concerning other plots in which he was mixed up. Another period of eighteen months' imprisonment followed, and on his release he sought security in Holland, where he became chaplain to William of Orange. In reconciling the Scottish Church his influence was invaluable, his advice having the greatest possible weight with William. His great authority in ecclesiastical affairs gained him the nickname of 'Cardinal C.' Under Anne he was elected principal of Edinburgh University and presented with a living. Four times in eleven years he was appointed moderator in the General Assembly. He supported the union of England and Scotland, but never tolerated the Act of estoring private patronage in the Scottish Church.

Carstens, Asmus Jakob (1754-98), a Danish artist, born near Schleswig, Prussia. He was apprenticed to a wine merchant for five years, but at the age of twenty-two he went to Copenhagen to study art. Then followed a period of great poverty in Lübeck and Berlin, during which he R.

ginia and Truckee Railway. Its chief, barely supported himself by portrait-He was released from Pop. penury by the success of his great composition The Fall of the Angels, which contains 200 figures, and which gained for him the patronage of the court, a professorship at the Berlin Academy, and a pension. He now visited Rome, in order to study the works of Michael Angelo and Raphael, and his enthusiasm for these masters had a most stimulating effect on German art. His numerous drawings represent chiefly subjects from the ancient classic poets and from Ossian and Shakespeare. Towards the end of his life he broke with the academy, and died at Rome in the deepest poverty.

Cart (A.-S. cræt, diminutive of carr, car), a general term for various kinds of vehicle, strictly two-wheeled, topless and springless, usually designed to carry heavy loads and to be drawn by one horse. It is the most primitive form of carriage or chariot (q.r.). Cs. are generally for agricultural or postal purposes, for transport of goods or luggage (farmer's C., tradesman's C., carrier's van). Combined with other words it may denote special kinds of pleasure-carriages. Examples are the dog-cart (originally made for the conveyance of sporting dogs), a rather high, two-wheeled carriage with scats back to back, in front and behind. These are particularly suited for tandem-driving. The 'gadabout' is a dog-cart; the 'Whitechapel cart,' 'gig' ('stanhopes' and 'tilburies' included) are other varieties. governess-cart ' is a very low, twowheeled pony-carriage with two side Other twoseats facing inwards. wheeled Cs. are the Irish 'jounting-car,' the Canadian 'calash,' and the American 'trotting sulky.' The 'dump-cart' is one that can be un-loaded by tilting the body of the vehicle, and is much used for carting away stones and refuse (dust-cart). Cartagena, Spain, a fortified sca-port, 326 m. S.E. of Madrid. It was

formerly the largest naval arsenal in Europe, and its harbour, enclosed by hills, and commanded by a fortified island on the S. side of the narrow entrance, is capable of holding the largest fleet. Built by Hasdrubal (242 B.C.) under the name of New Carthage, it was of great importance under the Romans. C. was twice taken by the British in the 18th cen-C. was twice tury; was seized by the commune, 1873; and retaken by the national force, 1874. Pop. 116,000.
Cartagena, S. America, cap. of Bolivar, was founded 1583. It has a

fine harbour, and the Dique Canal connects the port with the Magdalena C. was taken by Drake, 1585; pillaged by French buccaneers, 1697; bombarded by Admiral Vernon, 1741; captured by General Morillo, 1815, but finally freed from the Spanish yoke 1821. Exports cotton, sugar, bilds tobacca cotton, sugar, pillaged by French buccaneers, 1697; hides, tobacco, coffee, cacao. (including suburbs) 18,000.

Cartago, the cap. of the prov. of C. in Costa Rica, Central America, 121 m. E.S.E. of San José, on the Trans-Continental Railway. It is situated on a fertile table-land, 4930 ft. above sea-level, at the base of the volcano Irazu (11,200 ft.), near which are hot mineral springs—the resort of invalids. An eruption of Irazu flooded the city in 1723, the greater part of which was destroyed in 1841 by carthquake. It is noted for its fine coffee. Pop. 4536.

Carte, Thomas (1686-1754), historian, received his education at University College, Oxford, and took his M.A. degree at both English universities. \mathbf{He} was appointed reader at the Abbey Chapel, Bath, but resigned (1714) rather than swear allegiance to the Hanoverian government. He published a Life of James, Duke of Ormonde, and a History of England. Most of his MSS. is preserved in the Bodleian Library. Oxford.

Carte, Richard D'Oyly, sec D'OYLY

CARTE.

Carte-Blanche, a blank paper with an authoritative signature, to be filled up as the recipient wishes. Thus, the carte-blanche sent by Charles II. to the English parliament, to be filled with their own terms as the price of his father's life; and that given in 1832 to Earl Grey for the creation of

new peers. In piquet, a hand containing no picture-cards.

Cartel (from Med. Lat. carlellus, a diminutive of carta, paper), the term applied to a document which regu-lates the exchange of prisoners of war. The 'Cs.' decree the values of prisoners of different rank, who are now exchanged on this basis instead of by ransom. A C. ship is one of truce, exempt from capture; it is used to convey prisoners who are to be exchanged. In Germany, 'Cartells,' or 'Kartells,' are industrial combinations, of which there were over 345 in 1897. Often members of the same C. have a central selling office, whilst their output and prices are frequently subject to regulation. Among the most successful are the combination of coal miners, and those of the iron industry. These Cs. are at present on friendly terms with the government.

(1717 - 1806),Carter, Elizabeth famous for her knowledge of languages, published her first volume of

the Italian of Algarotti Sir Isaac Newton's Philosophy explained for the Use of Ladics. Her translations from Epictetus (reprinted in Everyman's Library), etc., won the admiration of Dr. Johnson and other learned con-

temporaries.

Carter, Henry (1821-80), an English engraver and publisher, better known by his pen-name. 'Frank known by his pen-name, Leslie, assumed in 1849. He was artist to the Illustrated London News, then went to the U.S.A., 1848. founded Frank Leslie's Illustrated Newspaper in New York, 1855; the Chimney Corner, 1865, and other periodicals. He also issued an illustrated history of the American Civil War, 1862. His wife continued to publish the Weekly and other papers. under the same name, after his death.

Carter, Robert Brudenell, F.R.C.S. (b. 1828), ophthalmic surgeon, received his medical training at the London During the Crimean War Hospital. he served as staff-surgeon, and won both English and Turkish medals. In 1870 he was appointed ophthalmic surgeon to St. George's Hospital, and from 1893-1903 still attended that hospital for consultations. The Royal College of Surgeons gave him in 1881 the Hunterian professorship of pathology and surgery, and he later accepted the Lumleian lectureship from the London Medical Society. He has translated German ophthalmic works. and is the author of several original treatises on eye diseases.

Carteret, Sir George (c. 1609-80), an English naval officer and Royalist politician, nephew of Sir Philip C. (d. 1643). By 1633 he was a captain in the navy; comptroller of the navy, 1639. C. became lieutenant-governor to the company of th of Jersey, 1643. He was knighted. 1646, and was one of the original proprietors of New Jersey in America, 1650. Forced to yield to the Common-wealth, 1651, C. served for a time under Vendome in the French navy. He was treasurer of the English navy, 1661-67. C. became sole proprietor of E. New Jersey, 1676; he was also one of the original proprietors of Carolina.

Carteret, John, E. of Granville (1690-1763), eminent statesman, was educated at Westminster School and Christ College, Oxford. From university he entered immediately into the vortex of the political life of the metropolis, and in 1711 took his sent in the House of Lords as second As he was Whig by con-Baron C. viction, he f

Stanhope a

1719-24, he his diplomatic services. Despatched poetry at the age of twenty-one, and by Stanhope as ambassador extra-in the following year translated from ordinary to Sweden, he negotiated

Hanover and Prussia, the other be tween Sweden and Denmark. In 1723 he was present at the somewhat in-effectual congress of Cambrai. His notable Lord-lieutenancy of Ireland dates from 1724. The abolition of Wood's coinage was due largely to ft over his

Drapier's Letters, he ended by gaining the Dean's highest respect and admiration. From 1730 to 1742 he devoted his activities to the overthrow of Walpole's ministry, and, having achieved his object, became the true leader of the subsequent cabinet. When the Pelhams came into power in 1744, C. ceased to be a political force, though in 1751 he accepted the Lord Presidency of the council. who was twice married, is described by Horace Walpole as of 'commanding beauty,' and enjoyed a high contemporary reputation for his oratory, wit, and sociability no less than for his classical learning.

Carteret, Philip (d. 1796), navigator, was commander of the second, in Wallis' thern hemi-

accidentally lost sight of his leader, he was alone when he discovered Pitcairn's Island and when he gave his name to one of the Solomon Archipelago. He contributed considerably to contemporary geographical knowledge.

Cartesius and Cartesian, see DES-

carinage, a rich and important city afresh, and Dionysius, tyrant of situated on a promontory at the Syracuse, was besieged in his city. north-eastern extremity of the Bay He was saved, however, by the of Tunis (Africa), the capital of o of the most important empires of t ancient world. Known takes Park ancient world. Known to the Roma as Carthago and to the Greeks cuse sent for Kapyŋ8ŵn, its true name was Kirjat Hadeshath or 'New Town.' Thame was given either to distin-leon, who inflicted a crushing defeat guish it from Tyre or from an on the Carthaginians at the Crimisus earlier settlement at Utica. The exact in 340. There was peace for thirty position of the city on the promontory is not known, but the city was dis-tinguished by its citadel (Byrsa), which was approached by sixty steps. It had two harbours, one for mer-chant ships and one for warships. chant ships and one for warships. Outside the walls of the city was the beautiful suburb of Megara. C. was settled by the Phœnicians of Tyre, a branch of the great Semitic race, about the middle of the 9th century B.C. There were already Punic settlements in the north of Africa-Utica, Tunis, and Hadrumetum-but of these C. finally obtained the chiefdom. The story of the city's first struggles for enter history till the 6th century B.C.,

two treaties, one between Sweden and I when she is already the centre of a prosperous commerce, and the ruler of extensive dominions, extending from Cyrene to the Straits of Gibraltar, with most of the western Mediter-ranean islands, and with settlements in Spain and Gaul. The pop, of the in Spain and Gaul. The pop. of the city and its district consisted (1) of pure Phonicians; (2) of Libyo-Phoenicians, the offspring of inter-marriages between the settlers and Africans: (3) the Libyans themselves, reduced to servitude and forming a large part of the Carthaginian army; (4) the Nomads, wandering tribes which furnished the city with irregular The extent of the comcavairy. mercial genius and maritime daring of the Carthaginians may be seen from the fact that Hanno, one of their admirals, is reported to have sailed, in the 6th century B.C., round the N.W. of Africa and up the Senegal R., returning then only through the failure of his provisions. The history of C, is mainly taken up by its wars with the Greeks and Romans, and to the first of these we must turn. The struggle was waged chiefly in Sicily where C. came into conflict with the Greeks of Syracuse. In 480 B.C., a great battle was fought at Himera, between Hamilcar and Gelo of Syracuse, and the former was defeated and slain. Some time later, the war was renewed, and Hannibal, grand-son of Hamilcar, entered Sicily to avenge his grandfather, which he did by storming Selinus and capturing Himera. In 405 a treaty was made, but seven years later war broke out

struggle con-

There was peace for thirty years, until Agathocles was tyrant of Syracuse. Then C. again attacked. but Agathocles transferred his forces to Africa, and carried the war to the very walls of C., which he would have taken had he not been suddenly called home. In 277 B.C., Pyrrhus was called in to the aid of the Syracusans, but Rome and C. were leagued against him, and he could do nothing permanent. More important even than this war was the mighty struggle with Rome. Treaties made between the two cities in 509 B.C. and about 450 B.C., show that C. was then the superior, and was gradually increasing power are unknown, for she does not her restrictions on Roman commerce. The first war lasted from 264-241

fleet, and won two great sea-fights at Myle (260) and at Ecnomas (256) B.C.) Regulus carried the war into Africa, but his army was entirely cut to pieces. Peace was made after another naval victory for Rome. From 241-236 B.C., C. was engaged in a bloody civil war, which demonstrated the insecurity of her homerule. This led the great Hamiltar to establish himself in Spain, and to try to found there a new empire which should subdue Rome. After his death and that of his son-in-law, Hasdrubal, his son Hannibal, sworn enemy to Rome, was chosen leader of the army. His attack on Saguntum in 219 B.c. was the commencement of the second Punic War. (For full account of this see HANNIBAL). The battle of Lama in 202 put an end to this war, and for the next fifty years the history of C. is mainly a record of political struggles. The Romans were perpetually oppressing, and in 149 B.C., C. was goaded into the third Punic War. It lasted for three years, and then the city was taken after a stubborn defence and utterly destroyed. At that time the city is said to have had 700,000 inhabitants. Thus ends the history of C. as a Semitic power, though she was destined to rise again as a Roman city.

Carthage, Cape, a promontory of N. Africa, jutting out into the Mediterranean. N. of Tunis lagoon are ruins of the ancient city of C.

Carthago Nova, see CARTAGENA. Carthamin (C14H14O2), a red colouring - matter prepared from flower. It is insoluble in water, but gives a purple-red solution with alcohol. It is used as a dye for silks and cottons and requires no mordant,

Carthamus, a genus of common to Asia, Africa Mediterranean. C. linca safflower, is an annual fou joint premier of Egypt and the Levant; the flowers Canada with Sir John Macdonald contain a colouring principle, and are lasted from 1858-1862. As a statesused by dyers as the source of delicate rose colours and rich scarlet, while mixed with tale they form the cosmetic known as rouge.

monastic order Carthusians, a founded in 1086 by St. Bruno and six companions, who retired to La Char-treuse, and there built hermitages, dressed in rude habits, and ate only vegetables and coarse bread. The fifth prior, Guigo, in 1134 composed of the great St. Lawrence R., Canada a list of rules, entitled the Statuta in 1534 he put out with two ships

B.C., and once again Sicily was the, and in 1176 the order received panel The Romans hastily built a recognition. The C. were divided into classes, fathers (patres) and two' brothers (conversi), and each occupied a separate cell, furnished sparsely with a straw bed, pillow, coverlet, and writing materials. They lived in isolation, and never left their cells except for festivals or for the funeral of a fellow C. Their habit consisted of a haircloth shirt, a white cassock. and over these a black cloak. order at one time counted sixteen provinces, and possessed many magnificent convents: La Grande Chartreuse, near Grenoble, the original monastery, and the home of the famous liqueur; Certosa, near Pavia. and a richly decorated convent at Naples. Their principal seats were in Italy, France, and Switzerland, but most of these have been destroyed, or have fallen into decay. The C. were despoiled and exiled from France during the Revolution; and as in 1880 they had declined to accept in-dulgence from the decrees against religious orders, the brothers were evicted during the anti-clerical movement of 1902, and their home was sold by government authority. The order was established in England in 1180. The London Charterhouse (a corruption of 'Chartreuse') was founded in 1371, and abolished during the dissolution of monasteries by Henry VIII. Strangely enough, this building eventually became a masterpiece of Protestant English charity (Fuller). The C. nuns arose at Salette. on the Rhone, 1229. They followed the rules of the monks with some modifications, notably that of a common refectory.

Cartier, Sir George Etienne, Bart. (1814-73), Canadian statesman, entered the Canadian parliament in 1848. A leader of a rebellion against British rule in 1837, his political ideas but it does not become permanently British rule in 1837, his political ideas attached to wool. The familiar cos- underwent so radical a change as to metic 'rouge' may be prepared by prompt him to join the reconstructed mixing C, with French chalk.

Liberal-Conservative party in 1854. As

for Lower Canada. codification of the province (1857-64).

man he was largely responsible for the entrance of Quebec into the federation (1864-67), for the removal of seigneurial tenure from Lower Canada, and for the Grand Trunk Railway as well as for the final determination to construct the Canadian Pacific.

Cartier, Jacques (1491-1557), Fr. navigator, famous as the discoverer Guigonis, or Consuctudines Cartusiae, from St. Malo with intent to find the

low elastic fibre, and is in the ear. a carroon. epiglottis, and Eustachian tubes. Cartoucl any perves.

priory. Pop. 6270.

Cartography, see MAP. name is Critchett), dramatist, began is merely a corrupt form of cartouche.

N.W. passage to Japan. Disappointed Cartoon (It. castone, pasteboard, he returned home, but in 1536 he set from Lat. charle, paper), a design on sail once more landed in Pillage Bay, strong paper, representing, in full opposite Anticosti, which he named size, some contemplated work of art, the Bay of St. Lawrence—a name and intended to assist the artist in afterwards extended to the river—
and learned from some Huron-frodesign when finished is transferred
quois Indians that he was in the land by tracing or pouncing to the surface
of Canada—a native word for 'vilfinally to be worked upon. The most of Canada—a natire word for 'vil-finally to be worked upon. The most lase.' Exploring the river in long famous Cz. are those of Raphael boats as far as the site of Montreal, which were executed for the celebe was able to look down from Mt. brated tapestry of the Vatican. These he was able to look down from Mt. Brated tapestry of the Vatican. These Royal on to the Ottawa and St. Law-rence stretching far to the W. The attempt in 1541-43 to find the mythical Saguenay, a wealthy kingdom, which, according to Indian story, lay up the Ottawa, ended in hopeless failure.

Cartilage, a gristly tissue existing at various parts of the body. It takes the place of bone where yielding is required, as at the joints and in the Standard and Michael Angelo the District of the Place of bone, and in the fœtus C. exists instead of bone, except in the case of some of the flat bones. It is of three Modern German artists have prepared in the Sala Borgia Modern German artists have prepared stead of bone, except in the case of Milan, and in the Saia Burgha-some of the flat bones. It is of three, Modern German artists have prepared kinds. Hyaline C. is glassy, and is accurate Cs., the most noteworthy found at the end-joints, such as the being the designs of Cornelius for his points where the ribs are connected fresco paintings in Munich. In Eng-to the breast bone and in the nasal land there was a revival of C-work in Cs. It contains no blood vessels. 1843-4, during the competition for White fibrous C. in which there are the House of Parliament paintings. white fibres arranged in layers occurs Dyce and Maclise have left fine in the knee-cap and vertebral column. examples in this line. A large-sized Yellow elastic C. has a matrix of yel- drawing in a periodical may be called

Cartouche: 1. In architecture signi-None of these varieties of C. contain fies any scroll-shaped ornamentation, such as the volute of an Ionian cap.. Cardiagnous Fishes, or Elasmo the oval tablets on which the arms branchii, form a sub-class of the of the popes were engraved, and the Pisces on account of their gristly oblong devices in Expetian monu-endoskeleton. They are, with a few ments and papyri containing royal exceptions, entirely marine, and manes carved in hieroclyphic characters. It is need according to the starts of the population of any contraction. include the sharks, dog-fishes, skates, acters. It is used especially of any and rays. See Elasmobranchia. inscriptive tablet sculptured so as to Cartmel a mrkt. tn. on the Furness railway. 12 m. N.W. of Lancaster in parchment. 2. Meaning originally a Lancashire. England. It is famous roll of paper, was used of the wooden for its remains of an Augustinian case enclosing cannon balls and later of the waterproof canvas case for cartridges. The word cartridge. Carton, R. C. (b. 1856) (whose real meaning a case for explosive charge,

by writing some small pieces in col-laboration. While an unnatural sentipowder required to charge a fire-arm. laboration. While an unnatural sentimentalism spoilt his earlier plays, a
fund of lively humour and a literary
excellence coupled with a just appretiation of stage technique have made
many of his subsequent light comedies a distinct success. Among these
may be counted his Lord and Lady
Mr. Hopkinson, and Mr. Preedy and
the Counters.

Carton-pierre, a substance very
similar to vanier maché, used as a powder required to charge a fire-arm
sometimes containing the bullet also.
In the Cs. for cannons or large suns.
In the Cs. contains powder alone. It
is formed of a serge or fishnel by
worsted hosps. Since serge is inclined
to smoulder after ignition, silk berg
are frequently used for salutes and
drill. For small arms, the C. consists
carton-pierre, a substance very
of a brass C-case, containing bullet. similar to papier maché, used as a powder, and primer. Ca. originally substitute for plaster in making came into use for muzzle-loading mouldings for walls, roofs, ceilings, etc. rifles, and in these bullet and powder

were wrapped together in a paper | but in 1809 government made him a cylinder. When required for use, the end of this was torn or bitten off and the powder poured down the muzzle. The bullet and the C.-paper were then rammed down on top. A somewhat similar C. was in use with the first breech-loaders, and the introduction of the steel, soon changed to copper, percussion cap marks the next stage in development. This cap, containing



a detonating compound of ! chlorate of potash, sulphur, and charcoal. soon led to the introduction of the modern C. case, and made adaptable for all kinds of rifles. The modern C. for breech-loading small arms consists of a solid brass cylinder at the base of which is the detonator, and promotests. . ii lii lii lii ka k

ar Constitud process in the ency of the conioniary con-.... which en

S) - 50 C - 50 . . .

brassbase or else of thin brassthroughout. Ignition may be either by pin or central fire. Blank Cs., which are used for drill, salutes, etc., contain only powder and primer, but no bullet; while dummy Cs. contain no powder. These last are used for drill purposes, where practice in the handling of Cs. might sometimes lead to dangerous accidents unless this precaution were taken. The illustration is a section of Bonax C., manufactured by Messrs. Kynock.

Cartridge-paper, originally a stout paper manufactured for cartridges, is now used as a paper especially adapted for drawing, which is creamcoloured and is made with rough surfaces of varying thickness.

Cartwright, Edmund (1743-1823), the inventor of the power-loon, was born at Marnham, Notts. Educated born at Marnham, Notts. Educated at Oxford, he afterwards obtained the rectorship of Goadby-Marwood, Leicestershire. A visit to Arkwright's cotton mills resulted in his invention, and he set up power-looms first at Doncaster, then at Manchester. He met with great Imperial Conference. opposition and no pecuniary gain,

grant of £10,000.

Cartwright, John (1740-1824), 'the father of reform,' entered the navy in 1758, and within eight years had been advanced to the rank of first lieutenant. He retired from the service in 1777, his sympathics with the Americans preventing him from joining Lord Howe's fleet. He had already begun to express his opinions, and his first pamphlets were on the question of American taxation. He became an ardent reformer, and held meetings and wrote tracts to further the movement. He desired to ventilate his views on the floor of the House of Commons, but was unsuccessful in each of his several efforts to find a constituency to return him to Westminster. His Life was written by his nicce, F. D. Cartwright, 1826.

Henry), t home, W. Ady, อก rector of Ockham. She is the author of many magazine articles and works of fiction, but is known chiefly as an The Pilgrims' Way and art critic. Sacharissa, her early efforts, appeared in 1892 and 1893, whilst from 1894 to 1905 date her series of critical essays on Edward Burne-Jones, Raphael in Rome, J. F. Millet, G. F. Watts, Bastien-Lepage, Christ and his Mother in Italian Art, 1897; The Painters of Florence, 1901; Botticelli, 1904; and Florence, 1901; Botticelli, 8.

Cartwrig had American gambled at horse-racing and cards till he heard John Page preach. From 1802 till his death he distinguished himself as a 'racy writer, and as a stirring backwoods preacher, r in the (1813-16), acti: Wal districts and of several and

districts of the Illinois conference. Cartwright, Sir Richard John (b. 1835), Canadian statesman, entered the Canadian parliament as a Conservative, but finally joined the Liberals in 1870, and became their Minister of Finance in 1873. He was remarkable for his strict economy, and during the years of opposition, 1878-96, acted as financial critic to his party. In 1896 he was appointed Minister of Trade and Comperce under Sir Wilfrid and Commerce under Sir Laurier, and from 1898-9 represented Canada on the Anglo-American Joint High Commission at Quebec Washington. Though he retired from the genate in 1904 owing to failing health, he was acting Premier in 1907 during Laurier's absence Cartwright, Thomas (1535-1603), a

Puritan divine, during a stormy Examples may be seen in species life of persecutions, did much to strengthen and organise Puritan doctrines. In 1570-1 Whitgiff deprived him both of his divinity professorship and fellowship at Cambridge. The rest of his life was divided between vis.ts to the Continent, to Geneva, Antwerp, the Channel Is., etc., and imprisonment, chiefly at the state of Bermudez, on the N. coast of the peninsula of Paria, and is provided with a lighthouse and excellent hardour. Sulphur, copper, silver, lignite, and imprisonment of the peninsula of Paria, and is provided with a lighthouse and excellent hardour. Sulphur, copper, silver, lignite, and imprisonment of the first-class ports of Venezuela, S. America, in the state of Bermudez, on the N. coast of the peninsula of Paria, and is provided with a lighthouse and excellent hardour. Sulphur, copper, silver, lignite, down the foreign trade, the exports of the peninsula of Paria, and is provided with a lighthouse and excellent hardour. Sulphur, copper, silver, lignite, down the foreign trade, the exports of the peninsula of Paria, and is provided with a lighthouse and excellent hardour. Sulphur, copper, silver, lignite, down the foreign trade, the exports of the peninsula of Paria, and is provided with a lighthouse and excellent hardour. Sulphur, copper, silver, lignite, and the peninsula of Paria, and is provided with a lighthouse and excellent hardour. Sulphur, copper, silver, lignite, and the peninsula of Paria, and is provided with a lighthouse and excellent hardour. Sulphur, copper, silver, lignite, and the peninsula of Paria, and is provided with a lighthouse and excellent hardour. Sulphur, copper, silver, lignite, and the peninsula of Paria, and is provided with a lighthouse and excellent hardour.

Cartwright, Thomas (1634-89), an English divine, grandson of the Puritan leader (d. 1603). Educated at Northampton and Oxford, he became tabarder of Queen's College, and studied under Tully, 1650. Secretly ordained by Bishop Skinner, 1655, C. became vicar of Walthamstow, 1657. He was prebendary of Wells, 1660; of St. Paul's, 1665; dean of Ripon, 1675; bishop of Chester, 1686. He was a staunch supporter of James II., who made him bishop of Salisbury. See Dict. of Nat. Riog.; Hunter's edition of Diary of Thomas Cartwright, Bishop of Chester, 1843. Cartwright, William

(1611 - 43),dramatist and divine, b. near Tewkes-bury, was sent as a king's scholar to Westminster, whence he was chosen (1628) as a student of Christ Church, Oxford. He took his M.A. 1625, and entered into holy orders. He was nominated one of the Council of War, and in 1642 was imprisoned by Lord Say, but released on bail. His plays and poems were collected (1651) by Humphrey Mosely, the comedy, The Royal Slave, a satire on the Puritans, being the most noteworthy of them.

Carucate (from Med. Lat. carrucata, from carucca, a wheeled plough), was once a measure of land, being the amount that could annually ploughed by a yoke of oxen. carucage was an impost levied on each carucate of land. Some think the C. was always equivalent to a 'hide' of land, and Richard IL's tax of five shillings on every carucata terræ site hyda may be quoted in support of this view. The term, which was evidently of Danish origin, was used in districts inhabited by descendants of In the beginning of the thirteenth century its size was fixed at 100 acres.

Carum, the name of an umbelliferous genus of sub-tropical and temperate plants, which are glabrous herbs with perennial tuberous roots, pinnate leaves, and white flowers. C. petroselinum is the common parsley, and C. carui, the common caraway, is cultivated for its fruit, known as caraway seeds.

Caruncle, a botanical term for a hard, small extra seed-covering, or rail, and is also called a strophiole.

for which are cocoa, coffee, hides, etc. Pop. over 12,500. Carus, Julius Victor (1823-1903), eminent German zoologist, studied medicine at Leipzig, Würzburg, and Freiburg, and in 1849 became keeper of the museum of comparative anatomy at Oxford. His appoint-ment to the chair of comparative anatomy at Leipzig dates from 1853. Twenty years later he lectured in Edinburgh for two summers in place of Wyville Thompson. Though he is the author of several scientific textbooks, such as Hundbuch der Zoologie Gerstäcker, 1863, etc.), his splendid monographs on many problems in zoological research are his most valuable contribution to contemporary science.

Carus, Karl Gustav (1789-1869), a German physiologist and landscape painter, was educated at Leipzig. is distinguished for the multiplicity of his interests and the versatility of his mind. After lecturing on com-parative anatomy in his native place, he became professor at the medical college of Dresden in 1814 where he passed the remainder of his life, throwing his house open to all the leading Dresden painters and savants. In 1827 he was royal physician, and was appointed privy councillor in 1862. As a philosopher he adopted the principles of Schelling. In one of his works he argued that there are many reasons for believing that the cell is endowed with psychle life. His many publications deal chiefly with anatomy, physiology, and problems in psychology Carus, Marcus Aurelius (282-283).

a Roman emperor, surnamed Persicus, who was elected by the soldiers on the death of Probus. He was a scholar and a soldier, and immediately after his accession he set out to war against the Persians, first conferring on his two sons, Carinus and Numerian, the title of Cæsar. He ravaged Mesopotamia, conquered the important cities of Seleucia Ctesiphon, and advanced beyond the Tigris, when his sudden death by lightning put an end to his hopes for the conquest of Persia and Arabia and the submission of Egypt.

Carus, Dr. Paul (b. 1852), living

American writer, was educated at in a caravel, that is a roundish galley-Stettin Gymnasium and the universities of Strasburg and Tübingen. versities of Strasoury and Ludgen. He is the author of a formidable list of phi.osophical publications, including: Science, a Religious Revelation; The Gospel of Buddha, and the straight of Buddhiet many other criticisms of Buddhist teaching; Lan-tze's Tan-Teh-King, and other treatises on Chinese philosophy; Goethe and Schiller's Xenions; God, an Enquiry and a Solution; Personality, etc.

Caruso, Enrico, M.V.O., living Italian singer, was born at Naples. Without any special musical training he early attained a world-wide fame as a tenor in grand opera, his principal rôles being Des Grieux in Manon Lescant, the Duke in Rigoletto, Lohengrin, Edgardo in Lucia, and

Pagliacci.

Carutti, Domenico, Baron of Cantogno (b. 1821), an Italian diplomat and historian, first attained dis-tinction as the author of many valu-able historical works, including able historical works, including Political Essays, Principles of Free Governments, and histories of Victor Amadeus II. and Charles Emmanuel III., the first and second kings of Sardinia. His public advancement has been continuous since his secretaryship in 1860-1 to the Minister for Foreign Affairs under Cavour. In the same year he entered parliament, and from 1862-69 acted as plenipotentiary at Amsterdam. In 1869 he became Privy Councillor, and since that time he has contributed to many historical reviews, and has completed (1875-80) his exhaustive History of the

Diplomacy of the House of Savoy. Carvajal, Tomas José Gonzalez (1753-1834), a Spanish statesman, attracted considerable attention by the marked aptitude he showed for finance, and from 1790 held many financial appointments, until in 1813 he rose to become Secretary of State. Eight years later he became a member of the Privy Council, and in 1833 served on the great Council of War. He has a further claim to distinction as the author of Los Salmos, 1819. which his countrymen regard as one of the finest works in modern

literature.
Carve, William Douglas (b. 1857), English architect, born at Liverpool, and studied under J. L. Pearson, R.A. His name is chiefly known as the architect of numerous ecclesiastical buildings, among which may named the archbishop's palace at Canterbury.

Carvel (for caravel, from Gk. κάρα-Boota, a light ship, through Italian carabella): 1. Has been used in different countries of very various ships. Columbus discovered America

rigged vessel, with three towers on deck. The French use 'C.' for a herring boat; the Turks for a man-of-war. C. built is applied to a of-war. C. built is applied to a boat 'whose planking is finsh with edges laid side to side' as distinct from 'clinker built.' 2. Is used in Manx and Breton literature as a synonym for 'carol' or ballad. Originally it was always referred to a lyric set to some dance measure.

Carver, John (c. 1575-1621), a 'Pilgrim Father' who emigrated to America in the famous Mayflower, and was appointed the first governor of the sturdy Plymouth colony (1620-1621). He had taken refuge at Leyden about 1607 as the result of religious

persecution in England.

Carver, Jonathan (c.1725-80), American traveller, served in the French and Indian wars, and after the peace of 1763, set out on a journey of exploration westward. Finally he reached the Mississippi by way of the Fox and Wisconsin rivers, and obtained from the Indians a grant of land between the St. Croix and Mississippi. In 1778 he published a narrative of his travels (1766-8) in London, but this, with the exception of his Journal, is now regarded as little more than a paraphrase of earlier accounts, his authorship even having been very seriously questioned. Carvin, a tn. to the N. of the dept.

of Passede-Calais, France, 104 m. S.S.W. of Lille. It has coal mines, and beet, brandy, etc., manufactures. Pop. 6800.

Carving, one of the oldest means of decoration and artistic thought expression. The word denotes cutting (A.-S. ceorfan ; Gk. γράφειν), and differs from mere draughtsmanship in that it secures relief and durability by incisions into the material and by the modelling of its surfaces. C. is thus a general term, and may be applied to sculptural work in wood, ivory, precious stones, terra-cotta, stone, marble, clay, wax, etc., but the C. in the first material only will be dealt with in the present article. Oak, on account of its durability, is the most suitable wood for C.; mahogany, teak, chestnut, and American walnut produce good work, whilst lime, sycamore, and the barks of fruit trees are employed for fine work. The fact that the fibres of wood run in a vertical direction and are deficient in lateral cohesion limits the scope of the carver. In all delicate work, such as tendrils or thin stems, the wise artist will take care to follow the grain instead of drawing across it; otherwise his detail will, in course of time, break away. The carver's kit consists of chisels for drawing lines,

gouges for making hollows, etc., the of his detail, and for his loving and tool for veining, and a mallet. Commercially many mechanical devices are in use for cheapening and lightening his work. Thus in the case of fretted or scroll work the ornament is glued on the ground after being cut with a fret saw. This method often produces unsatisfactory work as the two woods, being differently affected by the atmosphere, tend to Another machine has a separate. revolving drill which is directed over the ground of the decoration, whilst what is called the C. machine has a number of drills moving over the surface to be carved in accordance with a tracing point which works over the ground of an iron model of the required design. After fixing his piece of wood to a bench the workman sketches or traces his drawing. Then he grounds out the spaces be-tween the lines with his gouge. The Then he grounds out the spaces were tween the lines with his gouge. The next process of 'bosting' consists in shaping and modelling the details of his pattern, and finally he must clean up the whole. The success of his work largely depends on his appreciation of the appreciation of the standard of light and the appropriate relativity of light and shade. C. is one of the most primitive and popular forms of ornamentation. Among savages to-day there is often a just appreciation of the effective contrast of

face. They objects. adorn their spoon hand

Indian his wooden-pipe stem or fish The Egyptians from earliest times carved the faces of the dead in their mummy cases, and in the Cairo Museum is the statue of an elderly man, carved from a solid block of sycamore, which goes back probably to 4000 B.C., and which as a work of realism, has never been surpassed in that country. In Greece the earliest sculptors worked in wood, and for a long time their Jóara, or images of the gods, were religiously pre-served. In Europe there are two great periods of C., the Gothic (12th to 15th centuries), and the Renaissance (16th to 17th centuries), but of the two the former produced work immeasurably superior. In the Gothic period the wood carver was a master craftsman, who travelled with his band from church to church. He was actuated church to church. He was actuated by high relgious and social ideals, and was encouraged to respect the dignity of his craft by the prominence given to it in all church decoration. Thus pulpits, choir stalls, roofs, rood screens, font-covers, lecterns, doors, and retables, all owed much of their beauty to his skill. For the splendour of his architectural imagination, for the patient minuteness and accuracy

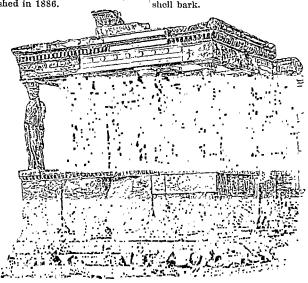
faithful imitation of natural forms. the Gothic workman is unsurpassed. The endless and fascinating diversity of treatment was due to the free-play given to individual carvers, whilst the splendid richness of Gothic work owed not a little to their harmonious colour schemes of blues, reds, greens, golds, etc. The magnificent roof of Westminster Hall and the elaborate pinnacled and canopied choir stalls of the Abbey both belong to this period. Italy is the true home of Renaissance work, and contains perhaps the finest illustrations. But speaking generally this period is characterised by failure to grasp the essentials of true com-position by an increase in dexterity and high finish at the expense of artistic principles, and by brainless extravagance in detail and tasteless over-elaboration. The most representative examples of Renaissance C. may be found in domestic work, and especially in oak chests, cupboards, mantelpieces, etc. Conventional leaves and patterns were substituted for the beautiful vine, oak, maple, and acanthus foliage of the earlier epoch. The great school of Grinling Gibbons, whose work can be seen at Hampton Court, Chatsworth, etc., dominated the 17th and 18th centuries in England. Yet the very flamboyance and profusion of his art detract from its obvious excellence in technical dexterity. certain that he is unequalled in the skill with which he carved drapery out of lime wood and modelled flowers, birds, fruit, foliage, etc., in the highest relief. In modern times the art of C. has fallen on evil days. but the decline in the art is due rather to the diminished demand for such costly ornament-costly in parison with rival mechanical decorations—rather than to any assured decrease in the amount of talent available. The mosques of the Mohammedan world and also the Hindu temples of India contain some of the most intricate and delicate wood work. The Arab worker knew well how to combine foliage and geometrical designs, and to introduce animals and figures, and was

Carving

show. Lack of restraint often spoils the effect of what is otherwise magnificent Indian C. The Hindu, however, has realised better than any other the value of the circle in ornament, just as the Japanese has best reproduced the lotus and water-lily, and as the Chinamen in all microscopic work has again and again proved his superiority.

Cary, Alice (1820-71), an American 1614-21. He went to Scotland with poet, is associated with her sister James I., 1617. He was bishop of Phobe in nearly all her literary work. Exeter from 1621-26. Her education was the result of her own ambition and energy. From 1850 she settled in New York with Phœbe, and in 1868 acted as the first president of the pioneer women's club, the Sorosis, Besides the Clovernook Papers (1851-3), she wrote novels, but is best remembered for her graceful, lively poems which appeared in *The Lover's Diary* (1868), etc., and which were all collected, together with those of her sister, and published in 1886.

Carya, the botanical name of the genus of N. American trees which comprehends the various kinds of hickory, in the order Juglandacere They are cultivated on account of their hard and elastic wood, which surpasses all other wood as economical fuel, and for the edible fruit called pecans. C. oliveformis is a swamp species with a slender stem and delicious hickory-nuts; C. sulcata is the thick-shell bark and C. alba the white-



CARYATIDES

Cary, Rev. Henry Francis (1772-1844), born at Gibraltar, educated at Rugby, Sutton Coldfield, Birmingham, and Oxford; ordained 1796. Published his dignified translation of the Divina Commedia in 1814, and afterwards translated Pindar's Odes Birds. Assistant-British Museum, and Aristophanes' Birds. librarian of the Buried in 1826-37. Abbey.

Cary, Lucius, see Falkland, Lord. Cary, Valentine (d. 1626), an English divine, educated at Cambridge, becoming fellow of St. John's, 1591; of Christ's, 1595. He became prebendurable and is used in ship-buildidary of St. Paul's, 1601; vicar of East it is reddish, hard, and compact.

Caryatides (Gk. Kapvārvs, woman of Caryæ), draped female figures which take the place of pillars in architecture, and are comparable with the Atlantes (q.v.), or male figures, of the same function. The most celebrated 11171

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Westminster Church, facing the Euston Road in London, are reproductions.

Caryocar, one of the two genera of Caryocaracere, or Rhizoboleæ. peculiar to tropical America, and is noted for its fruit. The wood is very durable and is used in ship-building; Tilbury, 1603; prebendary of Lin-nuciferum yields the Suwarrow, or coln, 1607-21; dean of St. Paul's, Souari, nuts of commerce, and C, butyrosa the butter-nuts, which contain a thick oily substance.

Caryophyllaceæ, a large order of cosmopolitan Dicotyledons, many species of which occur in Britain; they have no economic use, but are often cultivated on account of their pretty flower. The flowers are polypetalous and hypogynous, with usually five free or joined sepals, five petals, twice as many stamens, a syncarpous gyneceum with two to five carpels, a unilocular ovary with free central placentation. The oppo-site leaves and swollen nodes are characteristic of this order. Lychnis, which includes corn-cockle, ragged robbin, and red campion; Dianthus, which includes the carnation and sweet-william; and Stellaria, which includes chickweed and stitchwort, are three of the chief genera.

Caryophyllus aromaticus, or Eugenia caryophyllata, a species of Myrtacese which grows in the tropics as a small evergreen shrub, and the flower-buds of the plant are gathered before they are open, dried in the sun. and sold in the well-known form of cloves.

Caryota, a genus of Palmaceie, some of the species of which grow to a height of 60 ft. in the East Indies. The leaves are bipinnate, and the shape of the leaves has given the genus the name of fish-tail palms. The large green or purple flowers grow in groups of three, one female between two males, and the fruit is a berry. C. urens, the wine-palm, is the best known species; it is noted for the peculiarity of producing a burn-ing sensation on the skin when the pulp is applied to it. The wounded flowers exude an enormous amount of juice from which toddy and jaggery, a kind of sugar, are obtained. leaf-stalks are made into fishing-rods, and their fibres into ropes: the trunk yields a wholesome starch used as food.

Casabianca, Louis de (1755-98), He Fr. naval officer born in Corsica. was mortally wounded at the battle of the Nile, and went down with his son, who refused to leave him, in his ship when it caught fire. Mrs. Hemans and André Chenier have celebrated him in their poems.

Casa Blanca, or Dar el Beida, seaport tn. on W. coast of Morocco, 50 m. from Mazagan. In 1907 the town was bombarded and occupied by French troops. The chief exports are chick-· close on

imports amount to £570,000 per annum. Pop. 20,000.

Casacalenda, a tn. of Italy, in the prov. of Abruzzi-e-Molise, situated on above, and a painter and professor

the Biferno, 40 m. N.W. by W. of Foggia. Pop. 6400.

Casa, Giovanni della (1503-56), an It. writer born near Florence in the Mugello valley. He was made archbishop of Benevento and nuncio at Venice in 1544 by Pope Paul III. While holding these offices he made himself noteworthy by his violent attacks on the Protestants. He was then made Secretary of State, a post which he held till his death. lyrics, letters, and speeches are in a way excellent, but he is chiefly known for his little work called Il Galateo, ovvero de' Costumi, which he wrote between 1551-5. This book, with Castiglione's Cortegiano, gives splendid portrayal of the manners at court at the time of the Italian Re-Forcellini's edition of the naissance. Opere is the best, published in 1752.

Casale, N. Italy (anct. Bodincomagus?), on the r. b. of the Po, was long an important stronghold, and still maintains its fortifications. In 1474 created capital of the marquisate of Montferrat. Is the seat of a bishop, and contains a venerable cathedral, interesting churches, the Torre del Grand'Orologio, and some fine palazzi. Leading industries: manufactures of silk, lime, and cement. Pop. 19,337;

commune, 31,793.

Casalmaggiore, a tn. of Italy, in the prov. of Cremona, situated on the river Po. The manufacture of glass. pottery, and cream of tartar is carried There are numerous fine buildon. ings, including an abbey, hospital, custom-house, etc. Pop. 5000.

Casalpusterlengo, a tn. of Italy, in the prov. of Milan, situated on the river Brembiola. There are manu-factures of silk, linen, and earthenware, also a trade in Parmesan cheese. Pop. 7000.

Casamance, a riv. in the W. of Africa in the French colony of Senegal. forms an estuary which enters the sea in about 12° 30' N.

Casamassima, a tn. in Apulia, Italy, 14 m. from Bari. Pop. 8500.

Casamiccola, a tn. on the island of Isthia in the Gulf of Naples, Italy. Since 1883 it has been entirely rebuilt, as the old town was destroyed by an earthquake. Many visitors go there between May and August on account of its hot mineral springs (150° F.). Pop. 3800.

Casanova de Seingalt, Francesco (1730-1805), another brother, and an artist. Born in London, but gained his reputation in Paris as a painter of battle-pictures and landscapes. pictures can be seen at Rouen, Nancy, and Lyons.

Casanova de Seingalt, Giovanni Battista (1722-95), brother of the

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in the Academy of Fine Arts at city in Pinal co., Arizona, U.S.A., 50

Dresden.

Casanova de Seingalt, Giovanni Jacopo (1725-98), an It. adventurer noted for his wit, accomplishments, and intrigues. He was born in Venice. His father was of old and good family. but owing to his having adopted the theatrics

by his was Zar daughte

educated beyond his social standing, and at the age of sixteen entered a seminary at Venice, from whence he was expelled for immoral conduct. Through his mother he was given a situation in the household of Car-dinal Acquaviva, but as he found it very dull and irksome be took to travelling. He visited capital after capital leading a vicious life, and somehow found himself in the most aristocratic society. He wrote some Memoirs which throws a strong light on the evil manners of his time.

Casarano, a tn. of Italy, in the prov. of Lecce, 10 m. S.E. of Gallipoli.

Pop. 5000.

Casas, Bartolomé de Las (1474-1566), justly surnamed the 'Apostle of the Indians,' was with Columbus on his third voyage to the New World, and in 1502 travelled to His-

m. from Tucson.

Casaubon, Isaac (1559-1614), the famous classica'

at Geneva, his

originally from of twenty-four he was appointed professor of Greek at Geneva, and three years later he married the daughter of the great French scholar, Henri Estienne. Henry Wotton, in the course of his continental tour, lodged with C. at Geneva. In 1596 C. accepted the Greek professorship at Montpellier, and afterwards he lingered over twelve months at Lyons, awaiting his appointment to a Paris professorship. The university Paris had closed its doors against all but Catholics, and Henri IV. dared not appoint a Calvinist. However, he gave a pension to C., with a promise of the royal librarianship when it became vacant, which was not until 1604. After the assassination of Henri. C. was forced to move to London, where he was made prebendary of Canterbury, and given a pension. He was unjustly charged, after the publication of his reply to the Annals of Cardinal Baronius, with having sold his conscience in order to gain the favour of James I. The truth was that he had for some paniola. He had already studied in time been drawing near to the Anglo-Salamanca, and in 1510 entered the Catholic Church. He devoted his life priesthood. In 1511 he was given an to classical study, though often ham-

many ways, and he helped to connected knowledge of the the ancients. He published

own slaves, and finding the commission of inquiry into slavery quite unavailing, he successfully urged the importation of negroes to relieve the Indians of the heavy work that was slowly killing them. It is difficult then to discover what good he did; he substituted negro for Indian labour, and to him is due the present race problem in America. Not only was he incessant in exposing to the public the crueities he witnessed, as in his Brevissima Relacion de la Destruccion de las Indias, but he sternly and boldly proclaimed the iniquity of giving encomiendas to private individuals and of warring against the generously helpless Indians, and devoted his last energies to the restoration of a court of justice to the Indians of Guatemala. See Life by Helps.

Casas Grandes: 1. An ancient city in the state of Chihuahua, Mexico, 130 m. from El Paso. It has ruined buildings erected by Pueblo Indians and discovered in 1660 by the Spaniards. 2. The ruins of a prehistoric 42 B.C.

etc.; Græccand 1 Corre.

lected of a wineforcen (Robertain) 1709); his diary, Ephemerides, edited by his son Meric (q.v.), is preserved in MSS. in the Chapter Library, Canterbury, and was printed by the Claren-don Press, 1850. His Life was written by Mark Pattison, 1875.

Casaubon, Meric (1599-1671), son of Isaac, accompanied his father to England, and was educated at Christ Church College, Oxford. Was made prebendary of Canterbury and vicar of Monkton in Thanet, deprived of his appointments in 1644, but restored in 1660, and eventually became rector of Ickham. He inherited his father's taste for classical research, and vindicated the memory of Isaac C. in two Latin works.

Casca, Publius Servilius, a tribune of the Plebs in Rome in 44 B.C. He was one of the assassinators of Cæsar. He was killed at the battle of Philippi,

When taken two or three times :

constipation.

Cascarilla, which is a S. American renus of Rubiaceæ, is noted for its hark, which resembles that of Cinchona, and is used as a valuable aromatic and tonic. It arrives in Europe in short, thin, brittle rolls, and so receives its name, which signifies little bark. The bark of Croton C., a species of Euphorbiacea, is known as C. hark, and is used as a tonic.

Cascina, a commune in Tuscany, Italy, on the R. Arno, in the prov. of Pi-a. Cotton, linen. soap, and silk are its industries. In 1364 the Florentine soldiers defeated those of Pisa here.

Pop. 26,000.

Case, in grammar, one of the forms of declension to which nouns, pronouns, and adjectives are subject. Means literally a falling, and was so applied because the subject of a senapplied because the subject of a ser-tence had to be imagined as an up-right line, with the other words falling away from it. The English language contains only the genitive and some traces of the dative (as in 'whilom,' 'seldom'): Latin has six, nominative, genitive, dative, accussive, vocative, and ablative; Greek has no ablative; Sanskrit has two additional Cs., locative and instrumental. English, French, and Italian nouns and adjectives have lost their case-endings, but ! their pronouns are still modified, while polysynthetic languages (as Finnish and Magrar) acquire very

Cascade, a range of mountains in the United States situated in the N.W., and stretching in a N. to S. direction through the states of Washington, for civil injuries were few and rigid. Oregon, and N. California. It is composed of granite in N. Washington, totall the remaining part is volcanic, office out of which write were issued, covered many times over with flows initiated in right of an assumed equitable of the course of the common law (g.r.) of England. In the carly days of England. In the carly days of England. In the carly days of the common law (g.r.) of England. In the carly days of the common law (g.r.) of England. In the carly days of the common law the remedies through the state of the carly days of the common law the remedies through the state of the carly days o of lava. The range has either on its able (see EQUITY) jurisdiction, the crest or sides many extinct volcanoes, practice of formulating writs to meet such as Shasta in California, rising to cases unprovided for by the common 14,392 ft.; Jefferson, 10,350 ft.; and law. This practice at length received Hood, 11,225 ft., both of which are in legislative sanction in the Statute of Oregon. Then there is Adams, 12,470 Westminster, which permitted actions ft.; St. Helen's, 10,000 ft.; Rainier, to be framed in consimili casu, i.e. 14,526 ft.; and Baker, 10,827 ft. in by analogy to similar cases or sets of Washington. The general height of circumstances for which there already Weshington. The general height of circumstances for which there already existed a stereotyped form of action 5000 feet.

Cascara Bark, obtained from Committee the term actions in bear-berry or buckthorn, which is a law pleaders subsequently exercised. American species of Rhamnacea. The bark is taken from the tree and dried, when it yields a fluid extract, known as C. sagrada (sacred beart), which is greatly used as a cath when taken two or three times.

in small doses it acts on the muscular facta concepta. i.e. framed upon the fibres of the intestine and relieves facts of a particular case. In England the action upon the C. became in one particular direction so specialised that a particular form of remedy for enforcing simple contracts became recognised as an action of assumpsil, which itself was a form of 'trespass on the case,' although the analogy to trespass in the strict sense was as remote as it well could be. By the Judicature Act. 1873, all the old forms of action were abolished and no set style of pleading is required at all, provided the plaintiff shows in his pleadings that the facts come within some legal principle. The fundamental importance of the evolution of forms of action out of actions upon the C. lies in the development of new and more equitable principles of law. As in ancient Rome through the jurisdiction of the prætor, so in England by the aid of actions upon the C. new rights grew out of remedies avowedly given to meet old principles only.

Case-hardening. In some parts of machinery touchness of material must be accompanied by durability of surface. These two conditions are satisfied by using wrought iron and transforming its external parts into steel. Such material is used for axles, pins, links, and the edges of cutters, the result being greater accuracy and durability. The piece is generally finished bright, and then Finnish and Magyar) acquire very heated up according to requirements many.

Case, Action upon the, an obsolete leather, bones, or other charcoal or name for one of the forms of action prussiate of potash, all means of into which remedies for civil injuries causing the absorption of carbon to Quenching in water produces the required hardness of surface. Such surfaces must be ground, since common cutting tools will not touch them.

Casein, is a proteid, an important constituent of milk and the principal one of cheese. From the former it is precipitated by means of rennet which is an extract from the mucous which is an extract from the indeceds membrane of the fourth stomach of a milk-fed calf. It is a valuable food product containing phosphates. It is also precipitated by mineral acids, but is not coagulated by heat. It is allied to albumen and also to legumin found in the seeds of leguminous plants such as peas and beans.

plants such as peas and beans.
Casemate (from It. casa, a house, and matto, mad, used in the sense of Eng. 'dummy'), a loophole gallery or caponier, under the protection of which the garrison of a fort may fire upon the enemy below. Cs. are utilised to protect guns, hospitals, stores, etc., from high-angle or vertical fire; or they may be used as herracks. fire; or they may be used as barracks. In architecture, a hollow moulding,

such as the cavetto.

Casement, the term applied to the wooden frame with a hinge which keeps the glass of a window in position. Thvere all casemt k and pulley modern.

given to the vancy of the Opper Arno in the prov. of Arezzo, Italy. Tourists frequent it as the scenery is very picturesque.

It was celebrated by Dante.

Caserta: 1. A prov. of Italy which up to the year 1871 was called Terra di Lavoro. It forms part of Campania and stretches from the S. Apennines to the Tyrrhenian Sea. Although very mountainous, it is very fertile, and much wheat, olives, forage crops, fruit, and wine are grown there. Timber and marble are also got from this country. Its area is 2033 sq. m., and the pop. 800,000. 2. Cap of above prov. and episcopal see. There are large silk works here. Pop. 33,000.

Case-shot, or Canister, is a projectile of artillery, designed for use at close quarters. A tin or sheet-iron cylinder is filled with bullets, varying in iz. to 1 lb.,

vhich are en this is s, scatterdistances.

ineffectual at a greater range than

300 yds.

Cash and Cash on Delivery System. Cash denotes primarily ready money.

a small distance in the iron and also bank-notes, cheques, money-the consequent formation of steel. orders, and other documents containing an order to pay on demand as opposed to bills of exchange or other credit instruments (see also Cur-RENCY). The cash on delivery system is an arrangement whereby the postal authorities, railway companies, and other common carriers undertake on behalf of the vendor to collect the price of goods delivered by them from the recipient and to transmit the money to the vender. This system is highly popular in most European countries and in India and Japan. but, except as between the United Kingdom and certain British possessions and Egypt, the system has never been introduced into England. owing to the apprehensions of local retail traders. The amount to be col-lected under the cash on delivery system is called the 'trade charge.' Under the existing postal regulations the trade charge on any one packet may not exceed £20, and in the case of a parcel must not exceed the amount of the declared value to-gether with the postage and the fees payable on the parcel to the post office. The fees charged in the United Kingdom on cash on delivery packets from abroad are from 4d. when the trade charge is not over £5, 6d. when not over £10, 9d. when not over £15, to 1s. when not over £20. As regards the United Kingdom the system obtains as between the United King-

dom and Cyprus, Egypt, Malta, Morocco, and Turkey. Cash Credit. A C. C. is simply an advance by way of a debit balance in current account, which advance is secured to the bank by a bond entered into by a couple of solvent parties who are guarantors for the borrower. It was a system invented in 1729 by the Royal British Bank (which, though not strictly a Scottish bank, was promoted by Scotsmen with the object of transplanting to English soil the peculiar system of Scottish banking), designed to get its superfluous capital into circulation by inducing parties to borrow and embark in business. It is unanimously acknowledged that the system, now general among bankers, has been of immense advantage to the country materially

and morally.

Cashel, Tipperary, Ireland, the see of a Roman Catholic archbishop and of an episcopal bishop. Built on the southern slopes of a great height (the Rock of C.), it was the stronghold of the ancient kings of Munster, and contains many interesting ruins, a stone-roofed chapel built by Cormac money in a bank, in a chest, strong- McCarthy, 1127, a cathedral founded box, or coffer; but since the institu- 1169, the palace of the Munster kings, tion of banks it has come to denote etc. Pop. about 3000. Cashew-nut, or Anacardium occi-dentale, a species of Anacardiacem which is largely cultivated in tropical The fruit is a kidney-America. shaped nut with a hard shell containing an acrid black juice, but when this has been removed the kernel is found to be oily, pleasant, and wholesome. It is usually roasted for eating, and is often put into old Madeira wine in the West Indies to improve the flavour. The fleshy stalk on which it grows, the cashew-apple, has an agreeable flavour, and a gum is obtained from the stem.

Cashgar, see KASHGAR.

Cashibos, a savage Pernyian tribe who eat the old and worn out members of their own family; this has its origin in a religious ceremony (see Cannibalism). They live in scattered groups like wild animals amongst the trees and woods around the Amazon. In physique they are a fine race, with very light complexion, and the missionary Girbal speaks of the great beauty of the women.

Cashiering (Fr. casser, to break), a term in military law denoting the annulment of an officer's commission and his dismissal from the service. It may be awarded by a court-martial as a punishment for a number of offences by way of alternative to imprisonment. In the words of the Army Act scandalous conduct unbecoming the character of an officer and a gentleman ' is met by sentence

of cashiering.

Cashmere, in India, see KASHMIR. Cashmere, a silky woollen fabric originally manufactured from the hair of the Tibetan and Bokhara goats, and woven in Cashmere. The hair is spun by women, afterwards dyed, and made into the famous shawls, one of which requires the wool of seven or more goats. These are sold in Europe at prices varying from £100 to £300, but since 1870 the demand for them has not been so great. Imitations are made in France, and attempts have been made to acclimatise the C. goat in Europe and the United States. The name is also given to a fine woollen stuff, made in imitation of the shawl-fabric.

Cashmere Goat, or Capra laniger.
variety of the common goat of the ruminant family Bovidæ. Itj and occurs in Thet. Bornara, and Kirphiz, but attempts to introduce it into other countries have proved unsuccessful. It is a smallish goat, white, black, or brown in colour, with hanging ears, long horns, and long, straight, fine hair. The wool is used chiefly in the manufacture of Colonies with the manufacture of

Casimir (properly Kasimierz), the name of certain kings of Poland:

Casimir I. (1031-58), succeeded his father, Mieczysław II. The early part of his reign was disturbed by anarchical plots, and from 1037-40 he was obliged to leave the country. On his recall he recovered Silesia from the Bohemians.

Casimir II., the Just (1177-94), was a popular ruler and sided with the people against the nobles. During his reign the senate, composed of bishops, palatines, and castellans, was

established.

Casimir III., the Great (1333-70), was born in 1310. He added Red Russia to his dominions (1341). founded the Polish law in the famous Statute of Wislica (1347), and subdued and won the friendship of the Teutonic knights and the Bohemians. He was a democratic ruler, and was, in consequence, called the King of the Peasants. He founded the university of Cracow (1364), and encouraged friendly commercial relations

tween Poland and other countries Casimir IV. (1427-92) was, by birth, Jagiello, Grand Duke of Lithuania, but by his marriage Jadirga, the daughter of Louis, King of Poland and Hungary, united Lithuania and Poland. He wared war against the Teutonic knights, and by the treaty of the Thorn recovered from them W. Prussia in 1466. During his reign the aristocracy increased in power, and won special privileges at the Diet of Nieszawa (1454).

John Casimir (1648-68) succeeded his brother. Ladislaus IV. Brandenburg won her independence in 1657, and the Cossacks rebelled against Poland and finally joined Russia in 1654. Poland also suffered frequent attacks from Sweden and Russia, and Casimir was obliged to take refuge in Silesia. Poland lost Livonia to Sweden (1660), and the territory beyoud the Unieper was ceded to Russia (1667). Casimir abdicated in 1668 and lived in retirement in France till

his death in 1672.

Casimir-Perier. Jean Paul Pierre (1847-1907), the fifth president of the French Republic. He was born in Paris on Nov. S, and was the grand-son of Louis Philippe's famous premier, Casimir Pierre Périer. His first appointment which brought him into public life was that of secretary to his father who was Minister of the Interior when Thiers was president. In 1874 he was made general coun-cillor of the Aube, and was, by that department, sent to the Chamber of used chiefly in the manufacture of Deputies in 1876. In this he was C. shawls which are very fine in always re-elected until he was made texture, and are often valued at its president in 1893. He was made several hundreds of pounds. 1894, and was then again re-elected president of the Chamber of Deputies. In 1894, after the assassination of President Carnot, he was made in French, and therefore it has been President of the Republic. He was elected by 451 votes as against 195 of Henri Brisson, and 97 for Charles for Henri Brisson, and 97 for Charles French and English versions at the Dupuy. His presidency only lasted six months, as he resigned in January this argument untenable. It has also 1895. He gave up political affairs completely and interested himself in mining. He gave valuable evidence without any autobiographical refersions.

tainment has not won any popularity

in England.

Casket Letters, a celebrated collection of documents which, if genuine, prove the responsibility of Mary, Queen of Scotland, for the murder of her husband, Darnley. The Earl of Morton, afterwards regent of Scotland, asserted that he had found the documents in a silver casket in June 1567, after Bothwell had fled from Edinburgh Castle. The casket is supposed to have contained letters, pro-fessedly written by Mary to Bothwell, some French sonnets, a signed but undated promise by Mary to marry Bothwell, and a marriage contract between the two. The documents were produced by Moray in the commission, held at York and later at Westminster, in the same year, 1567. It was alleged that the documents were written by Mary, and the hand-writing was compared with that of the queen. Mary herself vehemently denied the charge, and her request to see the original documents or copies of the same was never granted. documents passed into the hands of the successive regents of Scotland and were lost, apparently after the execution of the Earl of Gowrie (1584). The genuineness of the letters has frequently been doubted, and it is impossible now to discover the authenticity of documents which do not exist. Three theories have been held with regard to the letters: that they are wholly genuine, that they are wholly forged, and that they are genuine in parts, with interpolations by another hand. One of the arguments used against the genuineness of the letters is that two of the most in-criminating letters. criminating letters were written first in Scotch, and that the copies pub-

mining. He gave valuable evidence without any autobiographical refer-in support of Dreyfus at that famous ence, but purely as literary exercises, trial. He died on March 11. in support of Dreyfus at that famous trial. He died on March 11.

Casino, or Kursaal, an establishment which is very popular on the Continent as a form of promoting social intercourse. Most of the well-known seaside and holidar resorts thave a C., the most noteworthy being traced elsewhere, and much differs Monte Carlo, Ostend, and Boulogne. The building itself generally contains rooms for gaming tables, contains rooms for gaming tables, contents, but it is practically impossible than the content of the content from statements found in other documents, but it is practically impossible to tell where the truth lies. Mr. Andrew Laug, in his Mystery of Mary Stuart, 1901, arrives at no definite conclusion. A large number of historians have accepted the Letters as genuine, among them being Hume, Robertson, Laing, Tytler, Burton, Froude, and, among foreign writers, Ranke, Pauli, Mignet, and Gaedeke. Those who have held them to be forceries include Goodall. Cavid. forgeries include Goodall, Cavid, Hosack, Schiern, Philippson, and Chantelauze. The mystery round Mary's character can never be solved, and has always been an attractive subject to historians and men of letters. The controversy round the C. L. has called forth books too numerous to mention, and only a short list of the most prominent books on the subject can be mentioned: Walter Goodall, Examination of the Letters said to have been written by Mary said to have been written by Mary Queen of Scots, to James, Earl of Bothwell, 1754; Whitaker, Mary Queen of Scots, 1778; Tytler, Inquiry, 1790; Laing, Dissertation, 1804; F. Mignet, Histoire de Marie Stuart, 1854; G. Chalmers, Life of Mary Queen of Scots, 1822; J. A. Froude, History of England, vols. vii.-xii., 1856-70; T. H. Henderson, The Casket Letters and Mary Queen of Scots, 1890 (2nd ed.); M. Philippson, Histoire du Rêgne de Marie Stuart, 1891-2. Caskets, or Casquets, a group of

Caskets, or Casquets, a group of rocky islands in the English Channel. 8 m. off Alderney. They are very dangerous to shipping, and are the scene of the wreck of the White Ship in 1120, and the Victory in 1744, and many other vessels.

many other vessels.
Caslau, or Czaslau, a tn. in Austria
in the E. of Bohemia, 45 m. from
Prague. It was one of the chief towns
of the Hussites. It has large sugar
and other factories. Pop. 9000.
Caslon, William (1692-1766), the
first great English typefounder, born

at Cradley in Worcestershire. He established a small business in St. Luke's, London, in partnership with Bowyer and some other printers. For many years there were very few books of importance that were printed with any other type but that of C. He took as his model types of the

Elzevir pattern.
Casoli, a tn., Abruzzi e Molise in the prov. of Chieti, Italy, and 18 m. S.S.E. of Chieti. Pop. 7000.

Casoria, a tn. in prov. of Naples, Italy, and 15 m. N.N.E. of Naples, Produces wine and silk. Pop. 13,000. Caspari, Carl Paul (1814-92), a

German scholar and theologian, born at Dessau. He was made a professor of theology at Christiania in 1857, which appointment he held till his death. He wrote many theological and philological studies, and also an Arabic grammar. Besides these he published Kerchenhistorische Anekdota in 1883, and Quellen zur Ges-chichte des Taufsymbols und der Glaubensregel, a work in 4 vols., between the years 1866 and 1875.

Caspe, a tn. in Spain in prov. of ragossa. One of the oldest cities Saragossa. in Spain. It is visited a good deal on account of the sulphur baths of

Fonte which are near. Pop. 7800.
Caspian Sea (anct. Mare Caspium, or Mare Hyrcanium, Gk. Καόμα Θάλόσα), the largest inland sea in the world. on the boundary between Europe and Asia, extending from 36° 40' to 47° 20' N. lat., and 46° 50' to 55° 10' E. long. Its length from N. to S. is 680 m., and its breadth varies between 130 and 270 m.; total area 170,000 sq. m. It lies mostly in Russian territory, having Russia and Persia on the W., Russia on the N., the Transcaspian province on the E., and Persia on the The present sea formed part of a vast ocean which probably extended at one time to the Arctic Ocean, and united with the Black Sea in the W More recently the C. and Aral waters constituted a distinct Aralo-Caspian Sea, traces of whose existence are the high-level terraces (beaches), which surround part of the Caspian shoreline, and in deposits of the Caspian type of fossil-shells which are scattered over the Post-Pliocene Karakum sands eastward as far as the meridian the fighting ranks upon the declarathe principal indentations

navigation is difficult because of violent storms. Greatest depth in northern basin, 2526 ft., and in southern, 3006 ft. Its chief tributaries

He | White Seas has been established by means of canals connecting with the It abounds in fish, notably Volga. salmon and sturgeon, which also supply the caviare and isinglass manufactories on its shores. Many lines of steamers navigate the C., the chief ports being Astrakhan, Baku, Guriev, Derbend, Petrovsk, Len-koran, Krasnovodsk, and Tchikish-liar in Russian territory, Astrabud, Meshed-i-Ser, and Enseli in Persia. The Russian-Caspian flotilla has its naval station at Ashur-ade. Cass, Lewis (1782-1866), an Ameri-

can politician, born at Exeter, New Hampshire. He entered the army in 1813, and in due course rose to the rank of general. For several years he was governor of Michigan, and in the vear 1831 was made Minister of War. For a long period he was a senator, and in 1857 he obtained the position of Secretary of State, which he held until 1860. He wrote a history on the traditions and language of the Indians

in the United States.

Cassagnac, Bernard Adolphe Granier de (1806-80), French а journalist, born at Avéron-Bergelle in the dept. of Gers. He started his career in Paris in 1832, writing to various papers defences of Romanticism, and Conservatism, and his ardent defence of Guizot brought him article defends of cause stoggest and the cause of many duels. In 1840 he went to the Antilles, and while there married a Creole, Mademoiselle Beauvallon. In 1852 he was elected to the official candidature of the department of Gers. In 1868 he accused the Liberal party of opposing the emperor, and for having received money for that purpose from the King of Prussia, but was unable to produce other than false evidence when called upon to do so. He fled to Belgium in 1870 after the pro-clamation of the republic, but re-turned in 1876 for the elections, and was elected deputy. He wrote some historical works of not much importance.

Cassagnac, Paul Adolphe (1843-1904), son of above, and in early life was associated with his father in politics, and in journalism. He joined

of Mertviy Kultuk (W. Kaidak), Kenderli, Karabugas, and From there he returned to Paris in Balkan. The C. has no tides, but its 1872, once more associated himself 1872, once more associated himself with *Le Pays*, the journal of which his father was editor, and therein northern basin, 2526 ft., and in ardently upheld the Bonapartist southern, 3006 ft. Its chief tributaries are the Volga, Ural, Emba, Terek, publicans. In 1876 he was elected Kura, and Atrek rivers. Communication with the Black, Baltic, and His policy was one of strife and

invaded Macedonia. He put to death Olympias, mother of Alexander, and also, later on, his widow Roxana, and son Ægus. C. married Thessalonica. half-sister of Alexander, and (316 B.C.) founded the city which bears her name. He also rebuilt Thebes, which had been destroyed by Alexander. His son Philip succeeded him.

Cassandra, the most western of the three points of the Chalcidice Peninsula, between the gulfs of Salonica and C. In olden times it was named

Pallene.

Cassandra, in Greek mythology, was the daughter of Priam and She was loved by Apollo, who promised to give her the gift of prophecy, if she would fulfil his wishes. But on obtaining the promised gift, she refused to carry out her promise. Thereupon Apollo, in revenge, laid upon her the curse that none of her prophecies should be believed. So it was in vain she fore-told the fall of Troy, in which she was captured and ravished by Ajax Olleus. She was afterwards murdered by Clytæmnestra.

Cassano: 1. A tn. of Calabria, S. Italy, 34 m. N. of Cosenza, and 6 mm. W. of Sibari. It is well situated, being \$20 ft. above sea-level. The rock above it is surmounted by an old castle, from which beautiful views are obtained. Warm sulphurous springs are found here. 2. A tm. on the R. Adda, Italy. The scene of two battles, one in 1705, when the French defeated the Imperialists, and the other in 1799, in which the French were beaten by the Russians and

Cassans, a tn. in the prov. of Apulia, Italy, 16 m. S.S.W. of Bari.

Pop. 6000.

Cassation (cassare, in the Lat. of the jurists, to annul), a French word denoting 'the reversal of a judicial sentence.' The Cour de C. which received its full organisation under Napoleon, is the highest tribunal in France. It sits in Paris and hears appeals from all other courts except. appeals from all other courts except

obstruction. In 1877 he was again martial. It consists of forty-nine imprisoned, and openly incited MacMahon to rebellion, but the refusal of the latter, and the death of the Prince Imperial in 1879, ended his hopes in this matter. He was the founder of the journal L'Autorité, and wrote a life of Napoleon III.

Cassander (306-297 B.C.), King of Macedonia, b. 354 B.C., was disinherited by his father Antipater, in levited by his father Antipater, in favour of Polysperchon. He entered herited by his father Antipater, in divided into three sections: (1) Section des Requêtes, which exon a struggle with his rival, aided amines whether the petitions or appeals are to be received; (2) Athens and other Greek cities, and invaded Macedonia. He put to death Olympies mathematically appeals in civil cases; (3) Commiss mathematically appeals in civil cases; (3) Section de C. civile, which decides the course of Section de C. criminelle, which decides upon appeals in criminal matters. The court does not decide upon the main question at issue, but only on the competency of the other courts to hear the particular case; and the legality of the forms and soundness of the legal principle by which the case has been already tried. Thus the functions of the Cour de C. are ordinarily restricted to errors of law and procedure, and strictly it is not a court of appeal at all; but in cases where evidence is adduced before it, which was not available in the court which was not available in the courbelow, it may send the case back for a new trial or enter the appropriate judgment. This was the course followed in the Dreyfus case in 1906. If the law is found to have been violated, the decision of the inferior court is annulled and the case sent to be tried again by enother court. to be tried again by another court. If this second court decides the case in the same manner as the first, and a petition is again laid before the Cour de C., then the three sections unite in order to examine the case anew, and if they in their turn annul the decision the case is sent to be yet another court. before tried Should this third court decide in the same way as the other courts, and a petition against the decision be again presented to the Cour de C., that court requests a final explanation of the law on the point at issue from the legislature. If the court refuses the demand for a re-hearing their refusal is final. If the court grants the demand the case is heard by the civil section, where, after the point is argued, annulment is granted or refused. Three judges of the Cour or reliesed. Interpretation of the Court, are a constituent part of the Tribunal des Conflits. The institution of the Court de C. has proved highly beneficial to France. Placed by the nature of its office out of the immediate influence of political passions it has maintained its reputation for strict impartiality throughout all the changes of governalso receive appeals from courts. ment and administration. Many of constitutional ideas the one defect would appear to be the fact that it is not empowered to review the decisions of the official or administrative courts, a deficiency which seems to be in-compatible with the immunity of citizens from arbitrary acts of state officials. According to Professor Dicey, however, this separation of ordinary or judicial from official or administrative powers works no injustice in France, partly owing to the enlightenment of French jurists, who assimilate administrative law much to ordinary law as possible, and partly to the French national temperament,

Cassava, Mandioc, or Madioc, the name given to two varieties of Manihot, a genus of Euphorbiaceæ. The plants are shrubs which grow to a height of about 6 ft. in tropical S. America, and their various products are very valuable. M. utilissima, the bitter C., contains a poisonous juice. but when it has been driven off the plant is wholesome; the roots are ground to make mandioc or C. meal, also called Brazilian arrowroot, and the poisonous juice, or cassareep, is used as a condiment and preservative. The roots are also specially prepared to make tapioca. M. Aipi, the sweet C., has also edible tuberous roots: they are non-poisonous, and are grated directly into food, both for men and cattle. Both varieties are

rich in starch.

Cassel, Rt. Hon. Sir Ernest, G.C.B., G.C.M.G., G.C.V.O. (b. 1852), a retired financier, son of Jacob C., a bandher in Cologne, where he received his education. He started life in a corn merchant's office in Liverpool, and upon leaving there he went to London, where he soon found employment. In 1878 he married Annette, daughter of R. T. Maxwell, who died in 1881. He financed the great in 1881. He financed the great Assouan dam in Egypt, also the Swedish railways, and the Central London Tube Railway, which was opened in 1900. He raised a loan for China after the war with Japan, and assisted in the negotiating of three state loans for Mexico. In 1902 he presented to King Edward VII., with whom he had great friendship, £200,000 for the building of sanatoria for consumptives, and Aug. 1910 he gave another £200,000 for the benefit of poor English people in Germany, and the retired f

Casse!

the most distinguished jurists of of an innkeeper at Manchester, and France are and have been numbered had only a poor education, but during among its members. To English his apprenticeship to a joiner, he con trived to gain much knowledge of English literature and the French language. In 1836 he came to London to work at his trade, but at this time his interests were mostly centred in the temperance cause. In 1847 he became a tea and coffee merchant. but soon gave up the business, and became an author and publisher. His chief ambition was to supply good reading matter for the working class. In 1859 he entered into partnership with Messrs. Petter and Galpin, and in time numerous editions of standard works were issued, also the well-known Working Man's Friend, Family Paper, and Popular Educator.

Cassia, a genus of Leguminose consisting of about four hundred shrubs, trees, and herbaceous plants found in Asia, Africa, and America. The leaves are paripinnate, the flowers zygomorphic, some of the stamens are often reduced to staminodes absent, and the pods have often a bitter, nauseous taste. Many of the species contain purgative properties, and yield the drug called senna, obtained either from the leaves or from the pulp of the fruit. C. fistula, the purging C. or pudding-pipe tree, is a small tree with large yellow flowers in long racemes, having the appearance of a laburnum, and is found wild in India and tropical Africa. This plant yields the C. pods or purging C. of commerce; C. acutifolia and C. angustifolia yield the senna sold by chemists. C. lanceolata, the Alexandrian sennaplant, is found wild in Arabia, whence it is exported under the name senna of Mecca. C. Marilandica, the Maryland senna-plant, is valued for the purgative properties of its leaves.

Cassia Buds, the unexpanded flowers of Cinnanumum cassia, which yields the aromatic cassia bark used in the adulteration of cinnamon. In appearance they resemble cloves and in taste cinnamon, for which spice they are often used in confectionery.

Cassianus Bassus, a Greek writer of the 3rd or 4th century, to whom has been ascribed Geoponika, an agricultural treatise on rural economy. It is full of precepts extracted from ancient classical writers. An edition, with notes and index, was published by N. Niclas at Leipzig in 1781.

Cassianus, Joannes Eremita. Joannes Massiliensis (c. 360-448). monk and theologian, one of the first founders of monasteries in Western founders of monasteries in vices. Europe. He was probably born in Provence, but spent his early life in a Provence at Rethichem. With his publishe, ing firm Cassell & Co., was the son Constantinople, and Marseilles, at

which latter place he founded two religious houses, one a convent for nuns, and the other the abbey of St. Victor, which is said to have sheltered 5000 inmates during his lifetime. After his death he was canonised, and for a long time a festival was held at a certain season in his honour at Marseilles. He opposed the doctrines of original sin in mankind. lle wrote De Institutione Coenobi-orum, and Collationes Patrum, treatises on monastic life.

Cassicus, a genus of passcriform birds of the family Icteride to which belong the American orioles or star-lings. The species are distinguished chiefly by their long, straight, large, and sharply-pointed bills. They are gregarious and feed on insects and

fruit.

Cassidaria, a genus of gastropod mollusc allied to Cassis, the helmet-The species are found in the Mediterranean.

Cassidides, a group of coleopterous insects of the family Chrysomelidæ,

are smallish, eval in shape, brightlycoloured, and often metallic in ap-The larvæ cover their bodies wit

take from insects, c.c. and some

Cassier's Magazine, was founded by Mr. Louis Cassier in 1891, and published in New York. It was noted for being the first monthly publication devoted only to engineering and scientific subjects. One of the most striking features of the magazine is -- z the cele-

ssier's have Sir J. Low-Beresford.

Dr. Andrew Carnegie, Mr. Thomas A. Edison, Lord Kelvin, Sir Hiram Maxim, and Sir William White.

Cassini, the name of an Italian family of astronomers and geographers, of whom four generations had charge of the observatory at Paris.

Glovanni Domenico Cassini (1825-1712) was born at Perinaldo near Nice, and studied at the Jesuits' College, Genoa. In 1650, he was nominated professor of astronomy at Bologna University. His onergies were great, and many discoveries were made by him. In 1657, he was made inspector of fortifications by Pope Alexander VII., and in 1669 he was made director of Paris Observatory. He determined the rotation periods of Jupiter, Venus, and Mars, discovered four of Saturn's satellites and the division of the satellites and the division of that planet's rings, etc.

Jacques Cassini (1677-1756), son of the former, was born at Paris, and at the age of seventeen was admitted as member of the Academy of Sciences. Two years later he was made fellow of the Royal Society of London. In 1712, he succeeded to his father's position, and pursued various researches on the figure of the earth.

César François Cassini, de Thurn (1714-84), son of the preceding, was born at Paris, and succeeded to his father's position. He also continued the latter's surveying operations. He began the great topographical map of France, which was later completed by his son.

Dominique, Jacques Comte Cassini (1748-1845), who also took an active part in the division of France into departments. He helped

to found the Institute.

Cassino, a tn. in the prov. of Caserta, Italy, about midway between Rome and Naples. It is on the site of the ancient Casinum, which the Romans colonised about 312 B.C. In the town are the ruins of a Roman amphitheutre, and many other old buildings. On a hill behind, 1700 ft. stands the old Benedictine monastery, known as Monte Cassino, founded by St. Benedict in 529. Ιŧ has been destroyed four times: 589 by the Longobards; in 884 by Saracens; in 1030 by the Normans; and in 1349 by earthquake. In 1866 it was dissolved, but some of the monks have stayed on there. Its possesses an 11th century church Byzantine bronze doorway, also valuable frescoes, mosaics, and pictures. In the monastery is a theological seminary, a picture gallery, and a library of 40,000 vols.

Cassiodorus, Flavius Aurelius (c. 468 - c. 562), Magnus historian, statesman and man of letters, was born at Scylacoum in Calabria of a He rose to distinguished family. responsibility positions of responsibility under Theodoric, being sole consul in 514. After the death of this prince in 526. he was chief minister for some years, but about 540 he retired from public life, and it is possible that he then became a monk. He is our chief authority for the history of the Gothic kingdom of Rome. His chief works

arur rum,

enitome. (Gk. Κασσιόπεια Cassiopeia and Karriena), a constellation in the

great brilliancy blazed out here for ten days. Its brilliancy then dimin-

ished, and at the end of sixteen | battle of Philippi, and compelled his months it disappeared. According to freedman to slay him. the Greek fable, C. was the wife of Cepheus and mother of Andromeda, placed in the heavens with her head from the pole, so as to turn round apparently upside down because, according to Hyginus, she boasted of her own beauty as superior to that of the Nereids.

Cassiquiari (Cassiquiare), a deep, rapid river of Venezuela, S. America, forming the Orinoco's S. bifurcation. Issuing from R. Orinoco it enters R. Guainia, a branch of Rio Negro, near San Carlos, widening from 300 to 600 yds. It establishes water communication between the Amazon

and Orinoco rivers.

Cassiterides, a group of islands first mentioned by Herodotus as the place mentioned by Herodotus as the place where the Phoenicians exchanged their wares for tin. They were fixed to the W. of Spain, and have been identified with the Scilly Is. and Cornwall, or the British Is. as a whole. Others have suggested various small islands off the Spanish coast.

Cassiterite, the principal ore of tin, and is the binoxide of that metal with sometimes a little peroxide of iron, manganese, and silica. Its common name is tin-stone. It is a black or substance. crystalline crystal form being tetragonal prisms terminated by tetragonal pyramids. It has a brilliant adamantine lustre. To obtain the metal from the ore it is crushed and washed and then heated in a furnace with charcoal and lime to remove the oxygen. The metal so obtained is purified by first heating it upon the hearth of a reverberatory furnace until the more fusible tin melts and flows away from the alloys mixed with it as impurities. Afterwards it is stirred with green wood when the other impurities are carried These off with the scum so formed. generally of copper and Cornwall and Malacca are consist arsenic. the chief sources.

Cassius, Avidius (d. A.D. 175), a Roman general under Marcus Aurelius. He distinguished himself greatly in the Parthian War, and was therefore made military governor of Asia. In 175, Aurelius was ill, and Cassius used in an ecclesiastical sense. The proclaimed himself emperor strength of a rumour of his

Cassius, Caius Cassius Longinus, was made pretor in 44 B.c. through the influence of Cæsar, and was promised the government of Syria. Yet he was one of the most active conspirators against Cæsar, and took part in the actual assassination. He

Cassius, Gaius, surnamed Longinus (d. 42 B.C.), was the motive force in the conspiracy which resulted in the death of Julius Casar. In 53 B.c. he served as quæstor in the Parthian War under M. Licinius Crassus, and earned fame by his masterly bringing off of the remains of the Roman army, after the defeat at Carrhæ. After the battle of Pharsalus, he became reconciled to Cæsar, whereas before he had sided with Pompey. For some time things went smoothly, but then he was offended at the appointment of M. Junius Brutus, whose sister he had just married, as prætor urbanus. After the assassina-tion of Cæsar, he went to Syria and crushed Dolabella. When the triumvirate was formed, he was with Brutus at Philippi, and, his own wing being defeated, he ordered his freed-man to kill him. Brutus lamented him as 'the last of the Romans.'

Cassius, Spurius Cassius Viscellinus. a Roman soldier and statesman, and founder of the first Agrarian law. He was three times consul, in 502, 493, and 486 B.C. His agrarian law so offended the patricians and other wealthy citizens that he was put to death by them: some say the deed was committed by his own father. But according to Mommsen, the

story is pure invention.

Cassius Parmensis, so named after Parma, where he was born. assisted in the assassination of Cosar. and after the battle of Philippi joined Pompeius. He afterwards went over to Antony, and when they had been defeated at the battle of Actium, he was put to death by Augustus, 30 B.C.

Cassivellaunus, a British chieftain who ruled the district N. of the Thames at the time of Cæsar's second invasion (54 B.C.). After some British successes, Cæsar took the camp of C., and the chief was compelled promise tribute and make submission.

Cassock (Fr. casaque), a military oak. It was the name given in former times to the costume worn by soldiers, and it is not until a comparatively recent date that the word was

of English C. was a robe fastened at the

the was slain by his own before steps could be taken against tion of a girdle at the waist. For all orders of the English clergy black is the usual colour, though on some occasions purple is worn. In the Roman Catholic Church it varies in colour according to the rank of the wearer.

Cassowary, or Casuarius, the typical genus of the ratite family Casuawas defeated by Anthony in the riide, which are found only in the

About ten species exist, which are generally divided into two groups, those with the helmet laterally compressed and those with a pyramidal helmet. The plumage of both sexes is a glossy black, the wings and tail are very small and the hen is larger than the cock. They are running birds with great powers of leaping, and when attacked they kick forward with their feet. They live in pairs in wooded districts and the cock usually incubates the eggs, about six in number, which the hen lays in a nest of leaves and grass. C. bennetti, the mooruk, is the most common species.

Cast, see Casting. Castagno, Andrea del (1390-1457). Italian painter, was born at Mugallo. He was a member of the Florentine school, but may be called a draughtsman rather than a painter. His works are hold, but are often deficient in grace and delicacy. He died of the

plague at Florence.

Castaldi, Pamfilo (1398-1490). an It. poet and humanist, born at Feltre in Lombardy. He founded a school there, which earned great renown among foreign nations, and in which he became the teacher of the Italian language, and literature. Some Italian writers, amongst them Bernardi, say that C. was the real inventor of printing with movable types, and that Johann Fust, who is supposed to have been one of C.'s pupils, and intimate friend, gave away the secret to Gutenham that in 1472, G the authority t press at Milan

i Greece, now

ırdi.

on Mt. Parnassus, sacred to Apollo and the Muses. It is named after C., daughter of Achelous, who threw herself into the control of the contr herself into it to evade pursuit from Apollo.

Castalion, or Chasteillon, Sebastien (1515-63), Swiss Protestant theo-logian and humanist, was born near Bresse, In 1541 he visited Calvin at Strassburg, and in the same year the latter made him head of the college at Geneva. leave on account of small differ with Calvin, and lived poverty at Basel, till he was appo professor of Greek in 1533. He

lished various works.

Australian regions and are closely S. France, and Italy the fruit of the related to the emeus. About ten cultivated species is eaten raw cultivated species is eaten raw. roasted, or ground into flour, and is extremely nutritious. The wood resists well the influence of water, and is well suited for mill-timber, waterworks, and palings; the bark is used in tanning. C. vulgaris yields the edible sweet chestnut, which is developed from three female flowers. whose nuts are enclosed in a prickly capsule.

Castanets (Fr. Castagnette, Ger. Kastagnetten, Sp. Castanuelas), musical instruments of percussion, intro-duced into Europe from the E. by the Moors, and are used in dancing. They are made of two hollow shells of hard wood, fastened together by a cord, which is passed over the thumb and first finger. They are used in pairs, one in each hand, and are struck against one another, which produces a series of clicks, thus marking the rhythm of the music. They were used by the Greeks and the Romans. to accompany their Bacchanalian dances.

Castaños, Don Francisco Xaver de. Duke of Bailen (1756-1852), a cele-brated Spanish general, born in Madrid. In early youth he entered the army, and went to Berlin in order to study military tactics under Frederick the Great. In 1808 he defeated 80.000 French under General Dupont de l'Etang at Bailen, but was himself beaten by Lannes at Tuleda the same year.

Castanospermum australe, the Aus-

tralian chestnut, constitutes in itself a genus of the Leguminosa. The plant is a tree 30 to 40 ft. high, its foliage affords an excellent shade and

the fruit when roasted resembles a chestnut in flavour. Caste (from Portuguese casta, Lat.

castus, pure, chaste), a term generally employed to denote the division of Hindu society into various sections or Cs. It has also been employed for any distinctions of class in any nations which have a similar exclusive effect. The system has prevailed in a greater or less degree among most peoples of the world. There are few traces of it

amongst the Germanic races, and the idea derived from Herodotus that the in in the same year the literature and a factor was ex-him head of the college Experians had a C. system was ex-He was compelled to ploded by J. Ampère. However, it was bunt of small differ.—d in Peru, and

its threefold vers of Ahura (priests), Ra-

(priests), Raand Vastryas
Zend Avesta Castanea, a small genus of Fagacere found in N. lands, the fruit of which is the chestnut. The horse-chestnut even now found in Africa and Polynesia, and everything but that it has a prickly fruit. In Spain, However, it is a first state of the chestnut when the spain is of a special state of the chestnut is the chestnut is the chestnut in the chestnut in the chestnut is the chestnut in the chestnut is the chestnut in the chestnut in the chestnut in the chestnut is the chestnut in the chestnut in the chestnut in the chestnut is the chestnut in the che intimately connected with religion. According to a somewhat late hymn of the Rigveda, possibly interpolated, theorigin of the Cs is to be carried back to their birth from Brahma, when the Brahmans sprang from his head, the Kshatriyas from his arms, the Vaisyas from his thighs, and the Sudras from nis feet. Originally, then, this may be considered the division. The Brahmans, or priests, have the sole charge of the sacred Vedas, they guide and advise the rest of the Cs., and offer sacrifices. They are to receive respect from all others, and to attain great heights of sanctity and purity. The Kshatriyas are the warriors, from whom now the Rajputs claim direct descent. It is their business to govern according to the advice of the Brahmans. The Vaisyas, or husbandmen, share with the two higher classes the privilege of hearing the Vedas, but, in practice, he soon became much closer related to the lowest class. The Sudras are the slaves, whose business it is to wait on and serve the three higher Cs. Their restrictions are too numerous to recite. It is probable that the three upper Cs., the twice-born, were subdivisions of the Aryan conquerors of India, while the Sudras were the aborizines. In process of time, much subdivision took place and the important rules relaxed. The member of one C. may now do the work of any other, but the regulations with present to the control of the cont with regard to food are still maintained. No one may eat with persons of another C., or receive food prepared Several hundreds them. divisions are now catalogued, and each subdivision has its own elaborate rules. Not all the exertions of Western civilisation and religion have been able to break the system down to any extent. See report on 'Caste, Tribe. and Race,' in 1901 Indian Census Report; Sherring's Hindu Tribes and Castes, 1872-81; Muir's Sanscrit Texts, 1867-75; Burnell and Hop-kin's translation of The Code of Sanscrit | Manu, 1884.

Castel, Castello (from It. castello, Sp. castillo, from Lat. castellum, diminutive of castra, camp), a prefix added to names of various towns, etc... in Italy, France, and especially in

Spain and Portugal.

Castelár. Emilio (1832 - 99).Spanish orator and statesman, born at Cadiz. He was educated in early years at a Grammar School at Sax. afterwards going on to the Madrid University. He at first studied law, but soon gave himself up to philo-sophy and letters, and in 1853 he took a doctor's degree. He became known

distinction is found in its most fully, and in 1864 founded La Democracia, developed form, and here it is most in which he wrote bitterly against the government, and thereby lost his professorship. After an insurrection in 1866 he was condemned to death. but was able to escape to Paris, returning when the revolution of 1868 began. In 1873 he assisted in the downfall of King Amadeus, and the same year was made dictator by the Cortes, also resuming his professorship at the university. In 1874 he resigned his post in the Cortes, owing to hostilities there, and when at the end of the same year, Alphonso XII. was proclaimed King of Spain, he retired into exile for fifteen months, when he was then elected deputy for Barcelona. The remainder of his life he devoted to the study of history and philosophy. Among his early writings were Life of Lord Byron, The Religious Revolution, The Re-Among his early demption of Slaves, and others.

Castelbuono, a tn. of Sicily, 8 m. S.E. of Cefalu: it contains an old Benedictine monastery; also mineral

Castelfidardo, a tn. and com. of Italy, situated in the prov. of Ancona, 10 m. S. of that place. A victory was won here by the Piedmontese over the papal troops in 1860. Pop. 6000.

Castelfiorentino, a tn. of Italy, in the prov. of Tuscany, situated on the river Elsa, about 20 m. S.W. of

Florence. Pop. 10,000.

Castelfranco: 1. A tn. and com. cf Italy, in the prov. of Bologna, 16 m. N.W. by rail from the city of that name. The manufacture of matches is carried on extensively. The churches contain many valuable pictures of the Bologness school. Pop. 13,500. 2.
Also a tn. in the prov. of Treviso, situated on the Musone. It is famous as the birthplace of the painter Giorgione, and also for a victory gained by the French in 1805 over the Austrans the Austrians. There are manufactures of silk and woollen goods. Pop. 12,500.

Castel Gandolfo, a tn. of Italy, in the prov. of Rome, and 14 m. S.E. of the city of that name. It is situated on a volcanic slope 400 ft. above Lake Albano. Here in the 17th century Pope Urban VIII. built a castle which

was used as a summer residence by the Popes until 1870. Pop. 2000. Castellamare: 1. A fortified and seaport to of S. Italy, 171 m. S.E. of Naples. It lies on a sheltered portion of coast on the Gulf of Naples, where it commands a magnificent view. In the 15th century it was pillaged by Pope Pius II., and again in 1654 by the Duc de Guise. Its name is taken from the castello which was built there in the 13th century by Emperor for his eloquence in political matters, Frederick II. The chief industries are the manuf. of cotton and macaroni. 2. A town in Sicily, 45 m. W.S.W. of Palermo. Trade in cotton, wine, corn,

olive-oil, and anchovies. It stands at the head of a gulf of the same name. Castellamonte, a mrkt. tn. of Italy,

in the prov. of Piedmont, 10 m. S.W. of Ivrea, and 20 m. N. of Turin. It has an old castle, and a large The market-place. principal industry is the manufacture of earthen-ware. Pop. 6000.

Castellan, the keeper of a castle in medieval times. In different countries his rank and office varied. In France and Flanders the owners of certain domains held the title, which ranked

next to that of bailiff.

Castellana, a tn. of Italy, in the prov. of Bari, situated on the Adriatic coast. It is 26 m. S.E. of Bari, and 8 m. S.W. of Monopoli. Pop. 11,000.

Castellaneta, a tn. of Italy, 24 m. N.W. of Taranto. It possesses a cathedral, and is the see of a bishop.

Pop. 10,000.

Castellazzo, a tn. and com. of Italy, in the prov. of Pledmont, 5 m. S.W.

of Alessandria. Pop. 6000.
Castelleone, a vil. of Italy, in the prov. of. and 16 m. N.W. from the tn. of, Cremona, also 12 m. S.E. of

Lodi. Pop. 6000.
Castellio, Sebastiano (1515-63), a theologian, born in Savoy. He studied at Lyons, and in 1540 became a teacher in a school at Geneva. religious views, however, did not coincide with those of Calvin, to whom he owed his position, so he was obliged to resign, and went to Basle, 1544. Here he was appointed professor of Greek, 1553, and here he died.

Castello Branco, an episcopal city of Portugal. It has an active trade in wine, olive oil, and cork, and possesses noted marble quarries. Many Roman remains bear testimony

to its great antiquity.

Castello-Branco, Camillo, Visconde de Correia Botelho (1826-90), a Porturuese author, born at Lisbon. He lost both parents in infancy, and spent his early years in Traz-os-Montes. He studied in Oporto and Coimbra, and began his career of letters in order to gain a livelihood. Later on he went to the Episcopal Seminary in Oporto with the intention of entering the priesthood. He took orders, but his restlessness and want of stability forbade him keeping to one thing for any length of time, and in due course he resumed his former occupation. Created viscount, 1885, in recogni-Created viscount, 1885, in tion of his services to letters

Abrantes. It has manufs, of cloth.

Pop. 5500.

Castellón, or Castellón de la Plana: 1. A prov. of Spain in Valencia, bordering on the Mediterranean. There are silver and lead mines and tles, etc. Fish-

. Pop. 311,000. above prov.,

about 21 m. from the Meditorranean. watered ters are magnifi-

cent aqueduct, Canal de Castellon. The town has manufactures of linen woollen goods, earthenware, paper, and fire-arms, and is a centre of exports of fruit and wine. In the Church of La Sangre are some fine works by the great painter, Francisco Ritalta. Pop. 30,000.

Castelnaudary Castelnaudary (Castrum Novum Arianorum, unct. Sostomagus), a tn. Novum of S.W. France, dept. of Aude, near the Canaldu Midi. It is finely situated, and possesses various interesting There are flour-mills, buildings. manufactures of earthenware, woollens, and foundries. Pop. (1906) 6650,

Castelnuovo, or Novo, a scaport and com. of Austria-Hungary, situated near the entrance to the Gulf of Brass is manufactured. Cattaro.

Pop. 2000.

Castelnuovo Berardenga, a tn. of Italy, in the prov. of Tuscany, about

10 m. E. of Siena. Pop. 8500.

Castel San Giovanni, a tm. and com. of Italy, in the prov. of Piedmont, situated on the Scrivia, 13 m. N.E. by E. of Alessandria. Pop. 7000.

Castel San Giovanni, a tm. and com. of Italy, in the prov. of Piacenza, and 15 m. W. of the city of that name. Pop. 9000.

Castel San Pietro, a tm. and com.

Castel San Pietro, a tn. and com. of Italy, in the prov. of, and 12 m. S.E. from the tn. of Bologna. Pop. 13,000.

Castel Sarrasin, a tn. of France, in the department of Tarn-et-Garonne, on the river Garonne, with manufactures of serge and worsted articles.

Pop. 8000.

Castelvetrano, a tn. of Sicily, in the prov. of Trapani, and 25 m. S.E. of that place. It is chiefly notable for the production of white wines, which are considered the best in the island. Coral and alabaster ornaments are made, and there are manufa. of suk, flax, and cotton. Pop. 20,000.

Casti. Giovanni Battista 1803), Italian poet, was born at Prato in Tuscany, and early took orders. He taught for some time in the seminary at Montefiascone, but then gave up his hope of advancement in Castello de Vide, a tn. of Portugal, the church and his canonry of the in the prov. of Alemtejo and the cathedral for the sake of travel. In dist. of Portalegre, 40 m. S.E. of the service of Joseph II. of Austria, capitals, and, on his return, that sometimes as Le Benédette, was born monarch gave him the position of in Genoa, and studied under Vandyck. poeta cesareo, or poet-laureate. later life he resigned this position to avoid political strife, and settled at Paris as remain the

works are of tales in ottara rima, of which the plots are chiefly taken from La Fontaine and Boccaccio, and Gli animali parlanti, an elaborate poetical alle-

Castiglione, a tn. and com. of Sicily. in the prov. of Catania, and 25 m. N.E. of the city of that name. It is

noted for the quantities of filbert nuts grown there. Pop. 13,000.

Castiglione, Baldassare (1478-1529), Italian statesman and man of letters. was born at Casanatico, near Mantua, and received his education at Milan. About the year 1500 he entered the service of Guidobaldo da Montefelbro. Duke of Urbino, whose court was one of the best and noblest in Italy. This prince sent him on an embassy to Henry VII. of England in 1506, and in 1524 he was charged by Pope Clement VII. with the difficult task of arranging a dispute between the sovereign pontiff and Charles V. This carried him to Spain, where he was later naturalised and became bishop of Avila. He died at Toledo, brokenhearted, it was said, at imputations of treachery which had been made against him. He was universally mourned, and Raphael's painting of him is well known. But C.'s greatest claim to fame rests on his book, Il Cortegiano, written in 1514, which describes, in the form of dialogues, the composition of the ideal courtier. It is one of the noblest expressions of the Renaissance spirit, and has been translated into most European languages.

Castiglione, Carlo Ottavio, Count (1784-1849), an Italian philologist, (1784-1844), an Italian philologist, born at Milan. At the age of twenty-four, he published Monete cufiche del museo di Milano, an crudite work on the Kufic coins in the cabinet of Brera. His chief work is Memoire Geographique et Numismatique sur la Partie Orientale de la Barbarie aprelée Afrikia nur les Arabes suirpelée Afrikia par les Arabes, suivi des Recherches sur les Berbères atlantiques (1826), which attempted to give the history of towns in Barbary whose names are inscribed in Arabic whose names are inscribed in Arabic coins. In 1819 he edited a fragment of the Bible, translated into Gothic by Ulfilas, the MS. of which had been discovered by Cardinal Mai in 1817. Consult his Life by Biondelli (1856).

Genoese school, known sometimes as of 1845 he was obliged to take refuge

he visited most of the European II Grechetto (the Little Greek), and He painted landscapes and rural scenes, as well as historical pieces. His etchings are distinguished by light and shade effects. known work is 'The Animals entering the Ark.

Castiglione delle Stiviere, a city of Lombardy, Northern Italy, in the prov. of Como, 22 m. N.W. of Mantua. It is defended by an old castle, and is noted in history for a victory gained by the French over the Austrians in

1798.

Castiglione Fiorentino, a tn. and com. of Italy, 10 m. S.E. of Arczzo. There is a Piarist college and also a large orphanage. Pop. 13,300.

Castile (Sp. Castilla, from castillo, a castle), a former kingdom of Spain, occupying the central tableland of the peninsula. The highest mountains are the Sierra de Gredos (Plaza de Almangor, 8730 ft.), and the Sierra de Guadarama (Pico de Penalara, 8100 ft.). The average altitude of the northern plateau is about 2500 ft. Old C. or Castilla la Vieja occupies the northern district, and New C. or Castilla la Nueva the southern part of C. The northern region is watered by the Duero and its affluents, but in the summer is very dry and barren. In the S. flow the Jucar, Tagus. and Guadiana. The valleys are very fertile. Area 53,500 sq. m. The kingdom of C. was formed during the 11th century, and was united to the king-dom of Leon in 1230. In 1085 the Moorish kingdom of Toledo was captured and added to the Castilian Toledo became the capital. but Valladolid was also used as the royal residence. By the marriage of Ferdinand of Aragon and Isabella of C. in 1469, the two kingdoms became united ten years later. In 1492, by the conquest of Grenada, the whole of Moorish Spain came under Christain rule. The chief industries of the inhabitants of Old C. are cotton and linen weaving and stock-breeding. Area 25,850 sq. m. Pop. (1900) 1,785,400. Olives, saffron, pulse, and grain are cultivated in New C. The inhabitants engage in stock-breeding the manufacture of coarse woollens. Pop. (1900) 1,923,310. Castilho, Antonio Feliciano,

Castilho, Antonio Feliciano, Vi-conde de (1800-75), a Portuguese poet, born in Lisbon. He was blind from the age of six. In 1821 be published Carlas de Echo e Narciso. which attracted much attention. Amor e melancholia (1828), A Prima-Consult his Life by Biondelli (1856), vera (1837), and O Outono (1863), Castiglione, Giovanni Benedetto are the poems on which his reputa- (1616-70), an Italian painter of the tion stands. During the revolution

Camoens, adapted from the French, was completed in 1849. C. won a high reputation for scholarship and made a great study of ancient and modern history. He translated the Mctamorphoses of Ovid in 1841, and the Georgies of Vergii in 1865. Con-sult the Memorias by his son, Julio de Castilho (1881).

Castilla la Nueva (New Castile), one of the historical divs. of the Iberian peninsula, the other being Castilla la Vieja (Old Castille). It comprises the five provinces of Guadalajara, Ciudad Real, Madrid, Toledo, and Cuenza. It was in ancient times inhabited by the Celtiberian tribes. Area about 53,000 sq. m. See Cas-

TILE. Castilla la Vieja (Old Castile), one of the historical divs. of the Spanish peninsula, the other being Castilla la Nueva (New Castile). It comprises the eight provinces of Palencia, Valladolid, Avila, Soria, Logroño, Segovia, Santander, and Burgos, and. in the form of an elevated plateau, extends as far as the Bay of Biscay. Sec CASTILE.

Castillejo, Christoval de (c.1494-1556), a Spanish poet, born at Ciudad Rodrigo, Salamanca. He was attached to Emperor Ferdinand I., brother of Charles V., first as a page and later as secretary, and spent many years in Germany. His poems were first edited in 1573, and later in 1598 and 1600. He strongly opposed the poetical innovations of the school of Boscan. which sought to introduce Italian metres, such as the sonnet and the terza rima, into Spanish literature. His poems are written in a gay or satirical vein and have plenty of satirical vein, and have plenty A complete edition of his works were published in Madrid in 1792.

Castillo de Locubin, a tn. of Spain, in the prov. of Jaen, and 18 m. S.W. of the tn. of that name. Pop. 5500.
Castillon. a tn. in the dept. of Gironde, France, on the R. Dordogne, 33 m. E. of Bordeaux. Here in 1453 the English were defeated (see Shakespeare, Henry VI., Act iv.), and in the neighbourhood is the château where Montaigne passed the later years of

his life.

The art finds its application in the manufacture of iron Cs. (founding) of every description, of statues (in which case bronze is the metal usually em-loam being employed, and in the case ployed), of type for printing pur-poses, of plaster casts, and in a some-metal bars. The pattern being taken

in the Azores, and did not return to what different manner in the manuhis native land till 1863. His play facture of chinaware and pottery. The C. of bronze vessels and images is a metallurgical process of great antiquity. It was a well-known art Egypt, ancient many bronze statues belonging to this period having been discovered. From many passages in the O.T. it is evident that the Israelites were familiar with the arts of inetallurgy, vessels and ornaments being cast in bronze for the furnishing of the Temple. Little is known, however, of the methods employed by the ancients in the C. of metal articles, and it is probable that the treatment of metal by smiths' work was more common. The manufacture of cast iron is of compara-tively recent date, one of the most important uses to which the latter was first put being the manufacture of cannon. In the reign of Queen Elizabeth several large foundries existed, wood furnaces being exclusively used. Owing to the use of wood as fuel the first foundries were always built near forests, and it is on this account that Sussex became the seat of an iron-smelting industry. though this industry has long been extinct, many relies of it occur in Sussex cottages and farmhouses in the form of old-fashioned fire grates. originally cast in the locality. furnaces are particularly well adapted for smelting purposes, as wood does not contain the chemical constituents which cause coal to react in a harmful way with the molten metal, and the superiority at the present day of iron smelted in Sweden is due to the fact that wood is used as furnace fuel in that country. The increasing demand for cast-iron articles and the limitations of the timber supply, however, resulted in the introduction in the beginning of the 17th century of the use of coal for smelting purposes. The iron being reduced from its ores and procured in a molten condition, the process of C is in brief as follows: The foundry floor is covered several feet deep in sand, and pits of sand are arranged where the moulds are to be To construct a mould it is placed. first necessary to obtain a pattern of the article to be cast, and pattern-making forms of itself an important craft. An exact model of the article Casting, the name given to the pro- to be cast having been made, this is cess of shape shape of the moulds. | cavity the exact shape of the article

required remains. Precautions are made to ensure the mould retaining its shape, special qualities of sand or molten metal, and also to allow for the escape of the air displaced by it, and it is placed near the furnace in such a position that the molten iron may flow direct into it by means of channels made in the sand. The The metal is allowed to run in until it overflows the channels, the sand being meanwhile rammed down around the mould in order to keep it firm. The work is covered with a layer of sand and left to cool and solidify. The The mould is then scraped off, and the cast is chased and worked up for the purpose for which it was designed. The making of patterns is one of the most important crafts connected with the C. industry. The object to be aimed at is the making of a pattern which can be easily taken out from the mould without damaging it. It is evident that in many cases the shape of the pattern would render this im-possible were it made in one whole piece. The pattern is therefore carefully constructed in sections, with joints so situated that the parts can be extracted from the mould without fracturing the latter. In many cases a 'core' is used by means of which the thickness of the cast may be regulated. The mould being made as before, a substance, usually clay, is pressed into it, so as to form a layer inside the mould of the thickness which it is required that the metal C. shall be. The remainder of the mould is then filled up by means of is then filled up by means of plaster of Paris, and this on setting constitutes the core. When the whole is set and dry the mould is taken to pieces, and the clay or other material used as an intermediate layer is removed. The mould is then put together again and the core fixed in On allowing the molten metal to enter, it fills up the space between core and mould and a cast of the required thickness results. The introduction of machine moulding, in which the mould and pattern are manipulated by machinery, has re-sulted in the attainment of a higher degree of accuracy in the manufac-ture of Cs. than was formerly the case. Casting Vote, the vote given by the

chairman of any assembly when the votes for and against any proposition and resolution happen to be equal, and therefore the deciding vote. Where the chairman has already

out, the mould is then thoroughly voted he may yet be entitled to freed from moisture, this precaution a second or C. V. The privilege is being necessary to avoid explosions given to the chairman of a borough caused by the instantaneous generacouncil, an urban or rural district council, and a vestry meeting; and caused by the introduction of the molten metal. Neglect of this precaution has resulted in the wrecking of a whole foundry. The mould is provided with flues to admit the larly, in the case of a parish council and a vestry meeting; and to the person actually occupying the molten metal. Neglect of this precaution has resulted in the wrecking of a mount of the board or not, and simi-provided with flues to admit the larly, in the case of a parish council and a vestry meeting relative to the person actually occupying the molten with flues to admit the larly, in the case of a parish council and a vestry meeting; and a vestry meeting is a meeting of a mount of the board or not, and similarly in the case of a parish council and a vestry meeting; and a vestry meeting; and a vestry meeting; and to the person actually occupying the molten metal. Neglect of this preor parish meeting under the Local Government Acts. The chairman of an incorporated joint stock company is usually entitled to a vote not only as a principal and proxy, but also to a C. V. on an equality of votes at any general necting of the shareholders. In the House of Commons, if the members in a division are equal, the speaker must give the C. V., otherwise he never votes. Since 1848 the chairman of any standing committe of the House has been entitled to a C. V. To prevent any imputation of partiality both the speaker and any chairman of a committee in the House take care, where possible, to vote in such a way as to leave room for a further discussion by the House. According to the activities of the second roles are the state of the second roles. to the established rules of parliament the chairman of a select committee has a C. V., but no other vote. In regard to all questions before Private Bill Committees the chairman has a second or C. V. In the House of Lords the rule in regard to the vote of the chairman of committees is different; although he may record a vote like any ordinary member, he has no C. V., the result being that the question is decided in the negative.

Cast-iron, see IRON Castle (Lat. castellum, diminutive of castrum, a fort; Fr. castel; It. castello; Sp. castillo; Dan. kastel), a fortified building, a fortress. Before the Norman Conquest Cs. were almost unknown in England. The earliest pre-Norman fortresses consisted of earthern ramparts or rows of palisades erected on a naturally strong and commanding eminence. The site was defended either by difficulty of access. such as that presented by an escarpment, or by water, generally a river or a lake. These natural defences were supplemented by artificial ones, such as a mound dug out of the ground surrounding the spot; this device provided also, at one and the same time, a ditch. Sometimes primitive edifices were constructed upon piles. The 'lake-dwellings' and 'bill-forts' of Scotland are examples belonging to this period. The Barmekin of Echt in Aberdeenshire is a type. In England there are the forts of the Hereford-shire Beacon in the Malyern Hills. In these spots traces are to be seen of circular stone walls surrounded by ditches. The oldest Cs. of which reare of Roman origin. Richborough C. this was divided by a wall from a in Kent is the best example. Conis second courtyard called the outer burgh C. in Yorkshire, which is bailey.' Round the inside of the inner nearly contemporaneous with this. may be British; it is probable that the inner keep is of Saxon origin, and that the outer walls were built by the Normans. Later come Saxon Cs., like that of Castleton in Derbyshire. William the Conqueror returned to Normandy in 1067 he left England in the hands of Odo of Bayeux and Fitz-Osbern with orders to build Cs. at all-important points. Wherever a portion of the country was conquered there a C. was built to secure the conquest. These fortresses were like those of France of the 1y, Beaugency,

ont, Chamboy, for example. By the end of the reign of Stephen 1115 of these Cs. had been built. Each C. was the impregnable stronghold of a Norman baron who used his power and position, not only to protect himself against the attacks of those English who had been despoiled of their lands to provide a reward for him, but to oppress in every way the conquered people. William of New-bury says: There were in England as many kings, or rather tyrants, as lords of Cs.' Indeed, so great was the abuse that a treaty was made between Stephen and the Duke of Normandy (afterwards Henry II.), that a certain number of the Cs. should be demolished within a stated time; this was done, but not to the extent stipulated. The Norman C. was built generally on an eminence, and on a bank of a river. Its most characteristic feature was its innermost and strongest part—the keep. This was a square or oblong tower, the walls of which, built of stone and mortar, were very thick: indeed, these solid walls were its chief defence. The basement was vaulted, no provision was made for the entrance of light, and air was admitted only by very narrow openings in the walls. Here were the store rooms and the dungeons for prisoners. The entrance to the keep was usually on the first floor, admittance being gained either by a ladder or through a tower or 'fore-work' in which was a stone staircase. This first floor was lighted by loop-holes in the walls, and here were the soldiers' apartments, the guard-room, etc. On the second floor was the baronial hall, where the governor and his retainers took their meals. Above this were the rooms used by the governor and his family; this floor was lighted by small roundheaded Norman windows. The top facetiously called the was crowned with battlements. Out-Races.' side the keep and surrounding it was

mains of any importance still exist; a courtyard, called the 'inner bailey:' wall were offices for retainers and soldiers, graneries, storehouses, etc. The wall of the outer bailey was from 8 to 10 ft. thick, 20 to 30 ft. high, and was surmounted by a parapet at least a foot in thickness. This parapet with its crenellated embattlements protected the defenders of the C. who discharged arrows, darts, and stones through the crenelles. At the angles of this fortification were the square or round towers called bastions; in or near one of these was the postern gate for the egress of messengers during a siege. The main gate was of enormous strength, flanked by towers closed by a portcullis. Surrounding the whole fortress was a deep ditch or fosse, crossed by a drawbridge. tween the ditch and the principal entrance there was often a high battlemented wall called a barbacan. defend the gate and the drawbridge, which could be pulled up against it, thus cutting off communication.

Castle, Egerton (b. 1858), an English author, educated at the universities of Paris, Glasgow, Cambridge, and at the Royal Military College, Sandhurst. He was a lieutenant in the 2nd West India Regiment, and captain in the Royal Engineer Militia. He is a grandson of Egerton Smith, founder of the Liverpool Mercury, and since its amalgamation with the Daily Post has been a director of Liverpool Daily Post, Mercury, and Echo, Ltd. From 1885-94 C. was on the staff of the Saturday Review; till 1901 he was a member of the managing committee of the Society of Authors. His novels include: Consequences, 1891; The Light of Scarthey, 1895; Young of the Society of Audious. His invoca-include: Consequences, 1891; The Light of Scarthey, 1895; Young April, 1899; The Secret Orchard (dramatised for the Kendals), 1901; and in collaboration with his wife, The Did of Lenging, 1898; and in collaboration with his wife, Agnes, The Pride of Jennico, 1898; The Bath Comedy, 1899; Incomparable Bellairs, 1904; If Youth but Knew, 1905; Diamond cut Paste, 1909; Panther's Club, 1910; The Lost Iphigenia, 1911. He wrote Saviola for Sir Henry Irving, 1893 (with Pollock), and Desperate Remedies for Mansfield. He has also published for Mansfield. He has also published

books on fencing and bookplates.
Castlebar, co. tn. of co. Mayo in
Ireland. It is an important market
town for agricultural produce, and there are also breweries and some trade in linen. Here in 1641 the Irish massacred the English garrison, and in 1798 the French General Humbert defeated the English in a battle facetiously called the Castlebar

Castlecary: 1. A market town of

Somersetshire, England, 12 m. N.E. of Yeovil. There are manufs. of twine, horse-hair seating, etc., also brickworks. Pop. 3000. 2. A parish brickworks. Pop. 3000. 2. A parish of Scotland, 6 m. S.W. of Falkirk. It is the site of a fort which defended the wall of Antoninus.

Castlecomer, a tn. of Ireland, in the co. of Kilkenny, and 10 m. from the tn. of that name. It is situated on the river Dinin, and is a most important coal-mining centre. 2000.

· Castle Donington, a market tn. of England, in the co. of Leicestershire. overlooking the Soar and Trent valleys. It is 21 m. W. of Kegworth by rail. There are manufactures of

hosiery, silk, and baskets. Pop. 3000. Castle Douglas, a market tn. and bor, of Scotland, situated in Kirkcudbrightshire, on Carlingwark Loch. The sheep and cattle sales held here

are noted. Pop. 4000.

Castleford, a tn. in the West Riding of Yorkshire, England, situated on the river Aire, 10 m. S.E. of Leeds. It is a colliery district, and there are chemical and glass works, also Roman relics have been potteries. discovered in places near by, and the Roman road, Watling Street, passed through the district. Pop. 17.400.

Castle Garden, a circular fort in Battery Park, New York City. It was built in 1807, and was originally called Fort Clinton, and was used for public functions. It was the head-quarters for immigrants from 1855 till 1890,

when it was equipped as an aquarium. Castleknock, a vil. on the Liffey, co.

Dublin, Ireland, 5 m. from Dublin; the Under-Secretary for Ireland has his residence here. Pop. 5000.
Castlemaine, a tn. of Talbot co., in the State of Victoria, Australia, on Forest Creek, and on the railroad from Melbourne to Echuca. The gold-

mines near were among the first to be opened in the colony. Pop. 8000. Castlereagh, Robert Stewart, Vis-count, second Marquis of Londonderry (1769-1822), an eminent English statesman. He was the second son of Robert, first Marquis of Londonderry, and was educated at St. John's College, Cambridge. He sat in the Irish parliament in 1790, and was Irish parliament in 1790, and was appointed keeper of the Privy Seal in 1797, and Chief Secretary for Ireland in 1798. C. actively supported Pitt in bringing about the union between England and Ireland, and on entering the Imperial parliament, he became Secretary of State for War (1805-6). On the death of Pitt, he resumed office under Portland. The resumed office under Portland. The failure of the Walcheren expedition (1809) brought about a quarrel be-tween C. and Canning, the Foreign Secretary, which resulted in their re-

tirement from office, and in the duel which took place the latter was wounded. In 1812 C. became Foreign Secretary under Lord Liverpool; it was during his period of office that Wellington won his brilliant victories, Wellington won his prilliant victories, the success of the campaign of 1812-14 being largely due to C.'s steadfast and energetic policy. He represented England at the Congress of Vienna (1814-15), the Treaty of Aix-la-Chapelle (1818). The despotic measure resulting from his despection measures resulting from his domestic policy were extremely unpopular. He was regarded as being responsible for the 'Peterloo massacre,' and the or insured the following the states of the following the f with a penknife at his Kentish seat, Foots Cray. As his coffin was being carried to Westminster Abbey, a shout of joy came from the crowd in the streets. C. was undoubtedly a harsh ruler, but the years of peace that followed Napoleon's fall were largely due to his wise diplomacy. Consult C.'s Correspondence and Dispatches, edited Vane (12 vols. 1847-53); the Lives by Sir A. Alison (1847) and by the Marchioness of Londonderry (1904); and Lord Salisbury's Essays (republished 1905).

Castleton, a vil. in Derbyshire, England, 13 m. W. of Sheffield. It is situated at the foot of a hill, on the summit of which stands Peak Castle, erected by William Peveril, the natural son of William the Conqueror. In the neighbourhood are the Peak and Speedwell Caverns and the Blue John Mine. Pop. about 2000.

Castleton of Braemar, see BRAEMAR. Castletown, formerly the cap. of the Isle of Man; in the extreme S. of the island, on the W. coast of C. Bay, 9 m. S.W. of Douglas. From a rock in the centre of the town rises Castle Rushen, said to have been erected in 960 by Guthred II. of the Orrys Kings of Man. It was once the residence of kings, and was besieged for six months by Robert Bruce in 1313. The castle has now been converted into a prison and barrack. King William's College, in the vicinity, is an excellent especial for layer. an excellent school for boys. C. is a popular resort for tourists. Consult Fitzgerald, 'Castletown and its Owners' in Killare Archæological Journal, vol. ii. (1898).

Castor, or Castoreum, a reddishbrown substance obtained from the beaver, being contained in two pear-shaped pouches near the organs of reproduction. It contains castorin, salicin, benzoic acid, and other substances, has a bitter taste and a strong, penetrating, and enduring

Formerly it was much esodour. teemed as a medicine, being used in the form of a tincture as a stimulant and antispasmodic, but it is now used

only in perfumery.

Castor (a Geminorum), one of the two bright stars in the head of the twins ' which form the constellation Gemini. It is a double star, that is to say, it consists of two stars so close together as apparently, to the naked eye, to form one star. The two component stars are nearly equal in size, and together form the appearance of

a third magnitude. Castor and Pollux (Gk. Πολυδεύκης), twin gods of Greece and Rome, known as the Dioscuri. According to Homer, they were the sons of Leda and Tyn-dareus, King of Lacedæmon, and brothers of Helen and Clytremnestra. According to another version, Zeus appeared to Leda in the form of a swan, and she bore two eggs, from one of which came P. and Helen, children of Zeus, and from the other C. and Clytæmnestra, children of Tyndareus. Thus P. was immortal, while C. was subject to old age, sick- and is very useful for cases of gastritis. ness, and death. They both took part enteritis, and dysentery. The dose in the expedition of the Argonauts, varies from a teaspoonful to two during which D. slew Argonauts. during which P. slew Amy in consequence became fan boxer and wrestler. C. was for his horsemanship. their sister Helen, who had been used as a lubricant, as a mordant in carried away by Theseus. C. and P. dyeing, and in India as an illuminant. scized the intended brides of Lynceus and Idas, sons of Aphareus, and in ing the testicles or reproductive the battle that ensued C. was slain by ldas. P. arenged his brother by killing poses. In human beings it is generally both the following process. both the Apharide, and ther sought Zeus to grant immortali his brother. Zeus allowed the

among the stars as Gemini. Dioscuri were worshipped as protec-"~~ed

ıey were always represented as riding white steeds, with a star shining on

hip

their helmets.

Castoreum (Gk. κάστορ, beaver), a substance which is secreted by beavers of both sexes in two glandular sacs at the posterior part of the trunk It is at first about the consistency of syrup, but when dried becomes solid, losing some of its odour and activity. Formerly this substance was considered to be beneficial in spasmodic diseases, and was also used as a stimulant, but it is now employed chiefly by perfumers.

family of the sub-order Simplici- also in Helsingfors. He was intensely

It contains dentata of the rodents. Castor, the a simple living genus, beaver, one species of which is European, the other N. American. Many extinct forms of this family are found

Castren

Castor Oil, a heavy viscid natural oil obtained by crushing the seeds of the C. O. plant, Ricinus communis. These are first rolled, and then placed in hempen bags and subjected to high pressure by which the oil is squeezed out. The plant is grown chiefly in India, the greater part coming throug Clatte but it is also grown in the and Italy.
glyceride of ricinoleic acid, and is

soluble in alcohol, the specific gravity varies from '960 to '968, and the freezing point from 10° to 18° C. The best is 'cold drawn C. O.,' which is extracted without heat and is pale yellow or nearly colourless and almost tasteless. It is used in medicine as a safe non-irritating purgative, the most suitable for young children. causes only evacuation of the bowels,

a disagreeable taste, it visable to mix it with re palatable, such as juice. The raw oil is

Castration, the operation of remov-

while in the E. it is neasure practised on become cunuchs or harem or seraglio. also performed on

of the thorses, pigs, sheep, and cattle. The effect is much the same in all male animals treated in this manner. If at it is done before puberty the masculine qualities are not developed. In human males the voice does not break nor the hair grow upon the face; in sheep and cattle the horns are either not formed or they take a shape similar to those possessed by females. castrated cock does not crow, and its feathers are changed in character. Reproduction is quite impossible. If the operation is performed after puberty, it is often dangerous in its effects, the change is slow in the masculine qualities, and procreative power is not immediately lost.

Castren, Mathias Alexander (1813the founder of Ural-Altaian logy, born at Tervola, in N. philology, born at Tervola, in Tornea and Finland.

interested in Lönnrot's publication i of Kalevala, and began to study the language and literature of his country. For this purpose, he journeyed on foot through Finnish Lapland in 1838 and through Karelia in 1839, collecting ballads and songs of Finnish mythology. As a result of these excursions he published De Affinitate Declinationum in Lingua Fennica (1839), and a Swedish translation of the epic Kalevala (1841). With Lönnrot, he continued his literary researches in Finland, Norway, and Russia (1841-45), and worked at the St. Petersburg Academy (1845-49). In 1851 he was appointed professor of the Finnish language and litera-ture at the university of Helsingfors. Many of his lectures have been published and translated into German. He was an enthusiastic scholar, and indefatigable worker, and his death at so early an age was mainly due to over-exhaustion. Consult the Life by J. W. Snellman in Samlade Arbelen, 1892-1901.

Castrense Peculium (Lat. peculium) literally denoted property in cattle (from pecus, cattle), but came to be used of the private property of a wife, or that which is given by a father or master to his child or slave. According to Roman law a man had no property independently of his father, but C. P., that is money acquired by military service (Lat. castra, a camp), was regarded as the private property of a son. Later a man was allowed to be sole possessor of any professional earnings, and of property inherited through his mother, in which cases was known as quasi-castrense

peculium.

Castres, a tn. in Tarn, France, 46 m. It is situated on of Toulouse. both sides of the R. Agout, which is spanned by stone bridges. It is spanned by stone bridges. It is thought that the town is on the site of an old Roman camp, hence its name; but its history goes back to the foundation there of a Benedictine abbey in 647. In the 16th century it was a Huguenot stronghold. town is beautifully kept, and has an important trade in manufactured goods, leather, paper, dyeing, ma-

chinery, parchment, etc.
Castries, or Port Castries, the cap.
of the island of St. Lucia, W. Indies. It is situated in Carenage Bay and makes an excellent port and harbour. It has an extensive commerce, largely in sugar and cacao. Pop. 8000.

Castro, the modern name given to the chief towns of certain islands in the Greek Archipelago, viz., Chios, Limno (Lemnos), and Mitiline (Mytilene), which are otherwise known by the names of the islands.

Spanish theologian, born at Zamora. He entered the Franciscan order, and became private chaplain to Philip II., whom he accompanied to England in 1554 for the purpose of negotiating a marriage between that monarch and Queen Mary. He wrote a Latin work on heresy, entitled Adversus omnes hæreses libri xiv., 1534.

Castro, Cipriano or Cypriano (b. c. 1855), a Venezuelan military leader and ex-president, born in the Andean province of Tachira. His parents were Spanish mestizes of the peasant class. He early took an active part in local politics in Capacho, as a Liberal, forming a party called 'Castristas.' In 1866 C. was successful in the ' battle of Capacho ' against Morales, who was local representative of the Lopez government. During Crespo's rebellion against Andueza Palacio (1892), C. supported the latter and the government, winning a battle in The insurgents were, how-Táriba. ever, successful in Caracas, and C. retired from it on the fall of President Palacio. In 1899 C. headed a rebellion against Crespo's successor, President Andrade, the first skirmish taking place between San Cristobal and Rubio. After engagements in Las Pilas, at Zumbador and San Cristo-bal, he pushed his way on to the capital, Caracas, whence Fernandez had been despatched against him with a strong force. Andrade fled Curaçio, and C. declared himself jefe supremo (supreme military leader). He was made provisional president of Venezuela by the constituent assembly (1901), and in 1902 was formally elected president for six years. His administration was marked by numerous uprisings, first that of Hernandez, then that of Peraza, and finally that headed by Matos (1902-3), who tried to win the support of foreign governments. There were also disputes with European powers (1902-1903), with Colombia, and France (1905). C. proved himself a shrewd and resolute leader in all his dealings. He resigned his presidency in 1906. See Verynamer. See VENEZUELA. in 1906.

Castro, Inez de (d. 1355), a Spanish noblewoman, whose sad story has been used by poets and dramatists. In 1340 she lived with her cousin, Costança de Paza, the betrothed wife of Dom Pedro, the son of Alfonso IV. of Portugal. On the death of her cousin in 1346, she secretly married Dom Pedro. Alfonso, fearing that this union would be injurious to Ferdinand, the young son of Costança, ordered her to be put to death. When mno (Lemnos), and Mitiline (Myti-12), which are otherwise known by the names of the islands, Castro, Alfonso (c. 1495-1558), a his nobles to pay homage to her

Alvaro de C., governor of Lisbon. brilliant classical scholar and keen mathematician. Had the same tutor as Emanuel the First's son, the Infant | Spanish writers of romance | His style Don Luis, who had a life-long attachment for his young playmate. They is the romantic atmosphere so peculiar were both present at the siege of to the old Spanish Romanceros. He Tunis in 1535. Upon his return to died in great poverty. Lisbon, C. received from the king a commission for the command of Sar Pablo de Salvaterra in 1538. C. was a man always contented with small fortune abroad. In the early years of means, but thirsted to do deeds of his career he served successively in bravery. He married a noble Portuguese lady who was equally indifferent was a staunch Ghibelline, and the to wealth. Sailed to the Indies and joined the arentureiros for the relief of Diu. In 1543 C. undertook the task of clearing the sea of pirates, and later on again he was sent out to the Indies, where he ultimately received the appointment of viceroy. He unfortunately died soon afterwards.

Castro del Rio, a tn. in the prov. of Cordova, Andalusia, Spain, on the r. b. of the Guadajoz. Part of the old walls and a Moorish castle remain. There are manufactures of woollen goods and earthenware. Pop. 12,000.

m. 📏 on

ft. Enna. In the neighbourhood is Lake Pergusa, which is associated with the There is a fine Proserpina myth. cathedral (founded in 1307), an ancient citadel, La Rocca, and a castle built by Frederick II. of Aragon. The chief trade is in rock-salt and sulphur. Pop. 26,000.

Castroreale, a tn. in Sicily, on the Castro, 12 m. S.W. of Milazzo. It has hot sulphur springs. Pop. (commune)

10.300.

Castro-Urdiales, a tn. in the prov. of Santander, Spain, on the Bay of Biscay. The chief industry is fishing, and fish and timber are regularly exported to Madrid. To the Romans under Vespasian it was known as Flaviobriga. The town was sacked by the French army in 1813. Pop. 13,000.

Castrovillan, a tn. of Italy, in the prov. of Cosenza, Calabria, situated in a fertile valley. Olive oil is the chief production, and the manufacture of

Le Cid. C. was a Valencian by birth, and soon came into prominence as a man of letters. He lived at Madrid, setum in appearance, the branches and was very friendly with the being all long, drooping, green, and famous Spanish dramatist Lope de wiry, with channelled internodes and

exhumed body. See Camoens' Lusia- Vega, to whom he was greatly in-das. He wrote some Castro, João de (1500-48), son of forty plays, chief among which may be reckoned his Pagar en propria Moneda and La Justitia en la Piedad. C. betrays the characteristics of the

> Castruccio-Castracani, a nobleman of Lucca in Tuscany, b. 1284; a celebrated Italian general and soldier of of their republic. In return for his services as adviser in his campaign against the Guelphs, the Emperor Louis of Bayaria made him Duke of Lucca, Pistoja, Volterra, and Lunigrana, as well as Count Palatine. At the head of the Ghibelline party he carried on a war against the Florentines for fifteen years, at the end of which he died, on the very point of winning for himself a magnificent position as supreme authority in Tuscany, 1328. His death was a fatal blow to the Ghibelline party in Italy. Machiavelli's book, Castruccio-Castracani, is more a work of imagination than a history of facts.

> Castuera, a tn. and com. of Spain, in the prov. of Badajoz, situated near the Guadalija, with a trade in wines

and fruit. Pop. 6260. Casual Poor, a term used in England to denote those who receive relief occasionally according to the Poor Law, but are not enrolled as

paupers.

Casualties. In law of Scotland, 'C. of superiority,' now virtually obsolete, were certain occasional payments analogous to ancient feudal dues, paid to the superior lord by a tenant for the recognition of his tenancy. The only C. now in use are those payable to the superior in consequence of the transmission of the feu (fief or tenancy) by sale or succession to a new vassal. The payment made by an heir on taking up his estate was known as a C. of relief (Lat. relevo, to take up). The Conveyancing Act, 1874, makes C. fixed, and not 'casual' or accidental, payments in the absence casks is carried on. Pop 11,000. or accidental, payments in the absence Castro y Bellvis, Guillen de (1559- of express stipulation to the contrary. C such as now exist may be redeemed payment of certain capital sums.

Casuarinaceæ, an Australian order rowed his materials for his tragedy of Dicotyledons containing the single genus Casuarina. The species are trees somewhat resembling the Equi-

and two perianth-leaves, while the female consists of two syncarpous carpels, which form a unilocular ovary. The stamens and styles both hang out over their bracts and are wind-pollinated. The male flowers are borne in terminal spikes and the females resemble a pine-cone in appearance. The wood of the plants is called beef wood, and is of excellent quality, and the young shoots afford fodder for cattle.

casus, instance. Casuistry (Lat. point of law), the art of bringing moral principles to bear in particular cases applied morality. From the 7th to the 11th century The Penitential Book was used as a guide for conscience. Moral theology began with the schoolmen of the 13th century. Secunda Secunda of Thomas Aquinas is a well-known work on moral theology, but too scientific for general use. The science was largely developed by the medieval church in the 14th and 15th centuries. See Thamin, Un Problème Moral dans l'Antiquité, 1884; Bradley, Ethical Studies, 1876; Sidgwick, History of Ethics, 1892: Rashdall, Theory of Good and Evil. 1907.

Casus Belli (Lat., 'causes of war'), the grounds which, by international law, are sufficient for declaring war. The causes for war were strictly defined, so that war might be used as the last extremity in conflicts between nations. See articles on INTER-NATIONAL LAW; HAGUE PEACE CON-FERENCE.

Cat, in general, any member of the mammalian family Felidæ, including the lion, tiger, panther, leopard, lynx, jaguar, etc., but the name is more usually limited to the smaller species. Cs. are typical reluroid carnivores,

head, looseness of skin, swiftness of movement, grace, and muscularity. They are mostly splendid climbers and jumpers. They have thirty teeth, rough tongues, and long whiskers or feelers (vibrissæ), to assist the eye-sight at night. The pupils of their eyes expand and contract according to the light about them. The original abode of the domestic C. (felis domestica) is not certainly known, but it is probably descended from the felis caffra of ancient Egypt, which was

very small, scale - like sheaths in no true wild species exactly resembles place of leaves. The flowers are in them. They are hardly mentioned in male and female catkins, the male ancient writers of Greece, Rome, or flower consisting of a single stamen Judea, and it is known that in the earlier mediæval period of Europe Cs. were rather rare and costly. have been long known in China (from 500 A.D.), whence comes a fine variety with soft, beautiful fur and pendulous tufted cars. The Manx, with merely a rudimentary tail, is supposed to have come from Japan, but is also called the Cornish C. In the wides sense the C. section (curvoidea) of carnivores includes, besides felida, civets (viverridæ), aardwolves (proteleidæ), and hyænas (hyænidæ). Of domestic Cs. the most 'fancied' breed is the Persian (long-haired). The most valued are of a very uniform pale silver or chincilla colour, without marking or shading, and with green eyes. Blue Persians should have deep orange or amber eyes. Other varieties becoming popular are pure whites with blue eyes, deep coal-blacks with dark-yellow eyes, cream, fawn, and orange Cs. They may also be brownstabby, silver-tabby, tortoise-shell, or smoke colour. Usually there is little difference in appearance between males and females. Pure sandy Cs. are nearly always males. All except the lion are monogamous. They are difficult to train and inclined by nature to be treacherous. Anger is shown by lashing of the tail, pleasure by a deep, rumbling purr in the throat. Russia, Iceland, India, Madagascar, and Abyssinia, all have fine breeds of domestic C. Notable varie-ties are the Angora (long-haired), Maltese and Chartreuse (bluish-slate colour), Siamese (pale cream, with feet, lower legs, muzzle, and cars all black), and the Paraguay domestic C. of America. As a race Cs. are not gregarious or co-operative, but prefer to live or hunt alone (see Kipling's Just So Stories, The Cat that Walked by Himself), or in small family parties. The small species (especially the felis domestica) have young very quently, often as many as four or five at a birth. For about ten days after birth a kitten's eyes remain unopened. The eyes are always blue at first. changing gradually later on to green or yellow in most varieties. Cs. soon grow attached to particular spots or corners of a house. They are good mousers if not spoilt by too much petting. Most kinds are not very affec-tionate. In Persians the kitten's playfulness gives place to extreme dignity. Markings are an important point in worshipped at a very early period as judging short-haired varieties at an object of veneration, and not from shows. The earliest C show in Britain the flerce wild *felis catus* of Europe. was at the Crystal Palace, 1871, the Cs. are more prone than dogs to re-first in Scotland taking place soon vert to a wild or semi-wild state, but after in the Royal Gymnasium Hall,

Edinburgh. The National Cat Club | catacumbas. In time the term became was instituted under Weir's presidency, 1887. Its annual exhibition is usually held in October. The Scottish Cat Club, formed 1894, holds an annual show in Edinburgh or Glasgow. Other clubs are the C. Club of 1898, exhibiting annually at St. Stephen's Hall, Westminster; the Northern Counties' Cat Club (headquarters, Manchester), with two annual exhibitions; and the Midland Counties' Cat Club (headquarters. Wolverhampton) exhibiting annually See St. George at Birmingham. Mivart, Cats. 1880; Elliott, Monograph of the Felidæ. 1878-83; Wilder and Gage, Anatomical Technology as applied to the Domestic Cat, 1882; Hoey's translation of Champfleury's Cats, Past and Present. 1885: Stables, Cats, Past and Present. 1885: Staues, Cats, 1897; Jennings, Domestic and Fancy Cats, 1893; Winslow, Concerning Cats, 1890; Hindekopea, The Cat, 1895; Repplier, The Fireside Sphinx, 1901; Landrin, Le Chat, 1893: Simpson, The Book of the Cat, 1903. For their diseases and care, see Catherian Pathology, 1905.
Cothers and cate, see

Catabrosa, an inconspicuous genus of Gramineæ which grows in temperate countries. There is only one British species, C. aquaticus, found in

ponds, ditches, and wet sands.
Catacaos, a tn. of Peru, S. America, in the prov. of Pinra, and 224 m. S.W.

of Guayaquii. Pop. 3500.
Catachysmal Action, a theory of world history in vogue among geologists in the early part of the nineteenth century and thereabouts, to account for the revelations which had been made with regard to fossil remains. It attempted to explain the great differences in the fossiliferous remains in consecutive beds hv assuming violent catastrophes which swept over the earth, killing the in-habitants and altering its character. The theory is now abandoned, and the uniformitarian theory brought forward by Lyell, in which the course of events has been similar to those of

modern times, takes its place.
Catacombs (Gk. κατά, down, and κυμβη, a hollow), excavations forming subterranean galleries for the

applied to all burial-places in general. and so, in the 9th century, to the crypta or comiterium of the Christian vaults now known in England as the catacombs. There are C. in many places, but the most remarkable are those of Rome. These are the C. of the Christians, and the earliest belong to the 2nd century, though by far the greatest number belong to the 3rd and 4th. After the 4th century in-humation in C. became more and more rare, burial in churches taking its place. But the great respect of the Christians for the dead caused the C. to be still held in extreme reverence; people continued to visit them in remembrance of their dead, and to do homage at the tombs of the martyrs. There remain curious notices to visitors, itineraries of pilgrimages, etc., belonging to this time. The faithful took with them precious perfumes. which they poured through the cracks at the top of the martyr's tomb, and of which they carefully collected again every tiny drop as it passed through the cracks at the bottom, after having touched the body of the saint. With the invasion of Alaric in A.D. 410, this cult ceased. the C. sharing in the general devasta-tion. Indeed, at this time many of the holy relics were removed and deposited in the various churches for greater safety. There was, therefore, no longer any reason to visit the C.; all trace of them was lost and they were forgotten. Towards the end of the 16th century the reading of ancient writings brought about by the Renaissance, turned people's attention again towards the Cs., and in 1578 they were accidentally re-discovered by Padre Bosio. This 'Columbus of the subterranean world? devoted thirty years of his life to exploring them, working out their plan, and restoring and studying their monu-ments. He wrote an account of his ments. He wrote an account of his work in Roma Softerranea. Ever since the C. have been the object of curiosity to millions, and the work has been continued by Aringhi and Boldetti in the 17th century, Seroux d'Agincourt about 1825, and the devoted workers of modern times, Padre Marchi, his pupil De Rossi. J. H. Parker, and others. Valuable illustrations have been prepared by Raoul Rochette. The C. consists of an intereries of long and narrow to 4 ft. wide and 4 to 12 ft.

ssing each other in all forming multitudes s, and constituting an in-labyrinth. In these galn in the volcanic rock, the

terium ad calacumbas (the burnal-place | ueau and buried in niches or loculi, in the hollow), often shortened to tier above tier, from a short space

above the ground to the arched ceiling, in five, six, or seven rows. There is no masonry, the ground supports itself. Many of the galleries are in two or three stages, communicating with each other by stairs. The galleries are interspersed here and there spaces much larger than the ordinary galleries; these are the chambers or cubicula. M. Boissier believes that the tomb of Joseph of Arimathea, with its horizontal niche surmounted by an arcosolium, served the early Christians as a model for these tombs. At various distances—sometimes 300 paces—are vertical shafts for light and air. The loculi At various distances were closed by slabs of marble or huge tiles, and cemented with great exactness. On them was painted or incised a name and a date, with sometimes one or more of the Christian symbols, a dove, an olive-branch, or the sacred monogram. The cubicula were decorated with simple fresco-paintings, a curious mixture of pagan and Christian traditions forming the subjects. The chambers were family burial-places, or contained the tombs of martyrs. The C. are entered from churches above them, and some-times from simple openings in the ground. The old belief that the C. were secret places of worship of the early Christians is true only to a limited extent. There was no need for secrecy except during the fiercest of the persecutions, when Christian worship was penal. There is every evidence, indeed, that at those times they were used for congregational worship. As places of refuge for any number of people or for any length of time, the C. must always have been impossible, though a hunted refugee may occasionally have found safety It appears to be established that the C. were entirely the work of the early Christians and not disused sand quarries, as was once believed. The strata quarried for building purposes were quite unsuitable for the construction of C., which required strata of the hard volcanic rock. Among the more famous of the C. outside Rome are those of Naples, Syracuse, Palermo, Tuscany, Etruria, Malta, and Alexandria. The C. of Paris are improperly so called—they are mere charnel houses.

Catafalque (Old Fr. cadefant), a temporary draped structure, representing a cenotaph, used for the lying in state and for the funerals of royalty

and notable persons.

Catalan, a group of the Romance languages, spoken to-day by over 3,000,000 people in the provinces of Gerona, Barcelona, Lérida, Tarragona, Alicante, Valencia, and Castellón de la Plana, Spain; in the French depart-

ment of Pyrénées Orientales; in the Balearic islands; in the district of Alghero, Sardinia; and in parts of the Argentine Republic. C. dates from the 13th century, and closely re-sembles Provençal. During the 14th century it came to be regarded as a literary language, and still attains to that dignity, the revival of jocks florals at Barcelona in 1859 having aroused much popular enthusiasm. The greatest C. poet of the 15th century was Auzias March, who wrote beautiful Cants d'amor and Cants de mort. Of modern poets, Balaguer and Perdaguer are chief. Among the prose writers are Ramon Lull (Ray-mond Lully), Muntaner, and Desclot. Consult Morel-Fatio, in Grundriss der romanischen Philologie. 1888: and Mila y Fontanals Estudios de lengua catalana, 1875.

Catalani, Angelica (1799-1849), a famous It. singer who was the daughter of a tradesman, and was educated at the convent of Santa Lucien at Gubbio. Her glorious voice soon attracted attention, and she made a tour of Europe, receiving enormous fees, which were soon squandered, through the extravangance of her husband. She remained the prima donna of England for seven years, and won par-ticular admiration for her rendering of God Save the King and for Rode's Air with variations. But her chief triumph was operatic singing. She came to financial grief over the Paris opera house owing to her husband's carelessness. She gave up public life in 1828. She was most liberal and generous in her subscriptions to

charities.

Catalaunian Fields or Plain, scene of the battle in which Attila, King of the Huns, was defeated by the forces under the Roman general Aëtius in A.D. 451. The plain is generally thought to have been situated round Châlons-sur-Marne, in the old province of Champagne, France, but some authorities place it round Metz.

Catalectic Verses are such as are lacking a syllable in the last foot. Purtenham called them 'maimed' verses. See ACATALECTIC.

Catalepsy (from the Gk. κατάληψις,

seizure, or a taking possession of), a term applied to a nervous affection. in which the patient becomes in-sensible, and there is a sudden suspension of all voluntary motion, the body becoming rigid and fixed, and so remaining until the end of the attack. In some cases there is complete insensibility, so that the person appears to be dead. In other cases the patient appears to be labouring under great mental excitement, and gives utterance to vehement ejaculations, or will even break out into song. The duration of the attack varies; sometimes | the patient recovers after a few minutes, sometimes after several hours, but in more serious cases the attack will run into weeks or months. In this case forcible feeding has to be administered, otherwise the patient would starve. C. is a complaint to which very sensitive people, women more especially, are prone, and the attack is usually occasioned by some great stress of emotion, whether de-pression of spirits, mental excitement, or religious emotion. In the latter case it assumes the form of a trance or ecstasy. Swedenborg's trances were undoubtedly a kind of C. This complaint is also associated with hysteria, and does not necessarily mean mental derangement structurally, although it does happen that C. is sometimes one of the symptoms of madness. It belongs to the class of those nervous disorders in which the various organs refuse to perform their functions owing to the abnormal physical and psychic state of the patient. There is a good deal of imposture practised in this particular of the patient of the process of the pr affection; at the same time epidemic C. has been known to occur in which many people are affected at the same time. Moral means form a large part of the treatment as in the case of hysteria.

Catalogue, in astronomy, the name given to a list of stars, to which is added the means of determining their positions, whether latitudes and longitudes, or right ascensions and de-clinations. Such a C. not only forms a register of the stars in question, but also gives the means of computing the effects of precession, aberration, and anteres of precession, aberration, and nutation. The position of the star in the heavens at any given time can thus be computated. Another kind of C., such as a C. of comets, is concerned with purely physical investigations, such as double stars and

nebulæ.

Catalogues and Cataloguing (Gk. κατάλογος, register, from καταλέγειν, to enrol, pick out), a list or enumera-tion, generally in alphabetical order. of persons or things (sale C., picture C.), especially of the contents of a library or museum. A catalogue raisonne is such a list, classified according to subjects or on some A catalogue according to subjects or on some other basis, with short explanations and notes. Such explanatory notes and précis are becoming more and more in demand. The making of Cs. and bibliographies, both dealing with entire books as units, is a most important branch of library work. The

C. are essential, one by authors, one by subjects. Some libraries have various other C. and lists besides. The title of every book in a library has three distinct parts: (1) author; (2) title proper; (3) imprint and collation, with various bibliographic details. Titles are usually printed or typed nowadays instead of being written by hand, and the book form is largely being replaced by card C., as these are more convenient when new volumes are added to the library. The separate cards generally stand on edge in drawers or trays. The American Library Association Catalogue is a very helpful book, being a classified and indexed list of the 5000 vols. most valuble for the average townlibrary. First published in 1893, new editions have followed with short explanatory notes added (1904). The first to make definite, scientific rules for compiling book-C. was Panizzi in 1839. 1839. In that year appeared his 'Ninety-one Rules' to be observed in making the library C. for the British Museum. Every book was to be catalogued solely from information contained in itself. These rules have since been modified to meet the important principle that under any author's name all the editions of his works ought to be named in a single list. The Revised British Museum Rules were reprinted, 1900. Alternative systems had by then been protive systems and by then been proposed by Cutter (Rules for a Dictionary Catalogue, 1891) in 1876, by the Library, Association of the United Kingdom, and by the American Library Association. The dictionary system (authors, subjects, and titles system (authors, subjects, and titles all arranged in a single alphabet) is chiefly useful for small libraries. The three most important English codes of C. rules are those of the British Museum, Bodleian Library, Library Association of the United Kingdom (see Library School Rules, Boston, 1201). In 1876 Deves drey up his 1894). In 1876 Dewey drew up his scheme for decimal classification of books. Every subject was divided into ten sections as far as possible, and these again into decimal subdivisions. according to which the books were to be arranged on the shelves. presented a more or less logical sequence of subjects, with an index of authors. In the subject-indexes published periodically by the British Museum, the subject-headings are merely in alphabetical order. A shelflist or inventory of books as they stand on the shelves is very useful. and otheraphies, both dealing with stand on the shelves is very userli-entire books as units, is a most im-portant branch of library work. The value of a literary collection may (3) Dictionary. See London Library largely depend on good C. to make it of practical assistance. To meet Catalogue, 1910; Blackburn, it of practical assistance. To meet Catalogue Tilles, Index Entries, ordinary, reasonable demands two 1884; Dewey, Simplified Library

Catalogues

Standard Books, 1910.

Catalonia (Sp. Cataluna), formerly a prov. of Spain and also a principality of the crown of Aragon; now divided into the four provinces of Taragona, Lerida, and Gerona. It occupies an area of 12,414 sq. m. in the N.E. corner of the Iberian Peninsula. The name may be derived from Goth-Alania, a name perhaps given to the region when it was occupied by the Goths and Alans, or from Gothaland, or from Calalanos, the supposed name of Ptolemy's Catalanni; or from Olger Catalo, a hero who vanquished the Saracons about 756. The surface of the country, which is much broken up by spurs of the Pyrenees, slopes gently down to the coast, and is drained by the rivers Ter. Llobregat, Noguerra, Segre, and Ebro, none of which are navigable. The climate is generally healthy, temperate, and favourable to vegetation. The orange, fig, vine, pomegranate, myrtle, thorn-apple, pomegranate, myrtle, thorn-apple, esparto and heaths, maize, millet, rye, flax, liquorice, nuts, almonds, and other truits grow easily. Goats and swine are reared, but there are no sheep, and hardly any cattle. C., which was probably peopled originally by Iberian races, has been much invaded by foreign settlers. It was one of the first Roman provinces in Spain, and the country is full of Roman remains. The Romans were followed by the Goths and Alans, the Arabs. Charlemagne and his troops, then by Louis the Pious of Aquitaine, who placed the district under independent Since then the coun' Arabs. been alternately independer

annexed by Spain, and at the day the Catalans do not cease to demand their independence. This political movement has been stimulated by what may be called a renaissance of the local spirit in the 19th century, provoked by a revival of the study of the Catalan language and literature. The language has great affinity with the Provencal, and is a neo-Latin dialect. The Catalans are revolutionary and warlike, frugal, industrious, enterprising, and energetic, differing in dialect, costume, etc., from the other inhabitants of Spain.

Catalpa, a genus of Bignoniacere, occurs in Asia and more abundantly in N. America. C. syring@folia is a native of the southern states of America, where it gains a height of 40 to 50 ft. along the banks of rivers. -shaped,

School Rules, 1899, and Decimal height the branches become long and Classification, 1885; Quinn, Manual naked and destroy the appearance of Library Cataloguing, 1899; Nelson's the tree. C. bignoniodes grows as an ornamental tree in Britain and yields durable timber; C. longissima contains much tannin in its bark. Cataluña, see Catalonia

Catalysis, a term introduced by Berzelius to express the acceleration of the rate of a chemical reaction produced by some substance which is itself not permanently changed by the reaction. The terms 'positive C.' and 'negative C.' are sometimes used to express acceleration and retardation of the rate of reaction. some instances it is certain that the catalyser undergoes some change in catalyser undergoes some change in the course of the reaction, being reconverted to its original form be-fore the end of the process; in other cases no change at all is apparent. An example of the former class is pro-vided by the part played by manga-nese dioxide when oxygen is obtained by heating a mixture of that subby heating a mixture of that sub-stance with potassium chlorate. Some of the chlorate reacts with the manganese dioxide to form potassium permanganate, chlorine, and oxygen; the chlorine then reacts with the permanganate to form potassium chloride, manganese dioxide, and oxygen, these being the ultimate products of the reaction. In the acceleration of the combustion of hydrogen and sulphur dioxide in the presence of finely-divided platinum, the metal does not appear to change at all during the reaction. other metals act as catalysers in certain reactions, with results which have some commercial value. acetylene mixed with hydrogen be Frankish lords, after driving out the passed over finely-divided nickel, the rellow liquid

A process by of sulphur dioxide and oxygen is brought about by the catalytic action of platinum is used in sulphuric acid manufacture. No satisfactory theory of C. has yet been elaborated.

Catamaran (from a Tamil word derived from catta, to tie, and marana, wood), the name given to a vessel or raft used by the Hindus of Madras. It is formed of three logs lashed to-gether. The central log is longest, with a curved surface at the forcend which terminates in a point. It is from 20 to 25 ft. long, and is managed by two men who squat upon it and work paddles. The special use of the C. is that it can pierce through the surf on the beach at Madras, and so reach a vessel in the bay when any

other kind of boat would founder The Catamaran Expedition, yellow name given to an absurd project on a great the part of England for destroying

the French flotilla in Boulogne. Wimereux, and Ambletouse. Lord Meiville conceived a plan for placing vessels called Cs., filled with stones and explosives, close to the enemier's ships and of blowing them up. The foolish enterprise was a complete failure, and was much ridiculed in England as well as in France.

Catamarca: 1. A north-western prov. of the Argentine Republic, being bounded on the W. by the Andes and on the E. by the Sierra Aconquija. The country is mountainous, with short streams and many salt lakes. The valleys are fertile and produce red pepper, tobacco, and all kinds of grain and fruits. Copper is found in great quantity, many minerals are mined, including gold, silver, iron, and lead. Pop. (largely Indian) c. 105,000. 2. The capital of the above prov., on the Rio del Valle, 250 m. N.W. of Cordoba, with which it is connected by rail. It has a Franciscan monastery, a national college, and a normal school for women. The chief exports are figs, wine, and cotton. Pop. 8000.

nduanes, an part of the Aibay province, Luzon, from the E. coast of which it is separated by the Maqueda Channel. Area, 710 sq. m. Length, about 38 m. It is a fertile e, rice, abaca, digo, etc. The

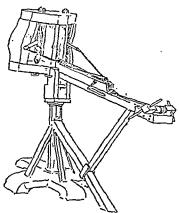
digo, etc. The about 34,000. In a prov. and the coast of Sicily. The province is an administrative

The province is an administrative division of the kingdom of Italy, It is everywhere mountainous, and is watered by the Giarctta and its numerous affluents. It forms the beautiful plain of C., the most fertile town is situated Etna, near the

Its of the the country learn that the country learn that the country learn the count

Catanzaro: 1. A prov. of S. Italy, formerly called Calabria Ulteriore II. It is bounded by the Mediterranean on the W. and the Gulf of Taranto on the E. There is excellent pasturage; vine, olives, and fruit are cultivated. Area, 2030 sq. m. Pop. 490.000. 2. Capital of the above prov. It is an episcopal city, situated on a mountain, 8 m. from the Gulf of Squillace. There are the ruins of an old castle and a fine cathedral. Many of the principal buildings were destroyed by an earthquake in 1783. There are fine olive groves; the chief industry is the manufacture of silk and velvet. Pop. 32,000.

Cataplasm, see Poulttice. Catapult (Gk. κατά, down, and πάλλω, to hurl), an ancient military engine for throwing stones, arrows, and darts. Some say that it was invented by the Syrians in 200 B.C., others that Dionysius, the tyrant of Syraeuse,



CATAPULT USED BY THE ROMANS.

invented it in 309 B.C. It was used by the Greeks in the time of Philip, King of Maccdonia, by the Carthaginians, and by the Romans. It disappeared at the beginning of the middle ages. In its simplest form the C. consisted of a strong framework of wood on which was stretched a sheaf of cords. To this was attached by one of its extremities a lever having at its other extremity a sort of bowl. The bowl was filled with stones, lead, etc.; the lever was turned so as to twist the cords. It was then let loose and the missiles were discharged. Another form of the C. had a bow of wood or steel, which was bent by means of a windlass, the cord being finally re-

also given to a toy consisting of a whom he became Prime Minister

rubber.

Cataract, a disease of the eye caused by the clouding of the liquid contents of the crystalline lens. This is situated with its anterior surface 3.6 mm. behind the anterior surface of the cornea and the principal image-forming part of the visual apparatus, the alteration of the curvature of its anterior surface giving accommodation. The cloudiness which is caused by lack of nutrition occurs at all ages. but more often in the cases of old people and young children. It is sometimes present at birth, exists in connection with some general diseases such as diabetes, in smile decay, or when the eye is subject to local injury caused by a blow. It is painless and opacity. In its early stages it is seen by the ophthalmoscope invented by Helmholtz for examining the interior frequently prehensile. The former of the eye. C. may be either hard are denizens of the Old, the latter of or soft; the latter, however, is the the New World. reneral condition for cases occurring in young people. Treatment must consist of an operation. As a palliative, however, a mydriatic such as atropine increases the opening of the pupil and so allows more light to reach the retina; but it is no cure, and has no power to arrest the progress of the malady. The operation can te per-formed by means of a puncture of the lens by a fine needle passed through the cornea at the margin and stirring the lens contents, when the substance of the lens passes into the aqueous Catawba, the name given to the humour of the eye and dissolves. This grape and the wine expressed from form of operation is generally performed on soft C. When the lens is grape of Vilis Labrusca, the forformed on soft C. When the lens is grape of N. America. The fruit is hard it is extracted entire. With a dark red and very sweet, and the narrow knife an incision is made in wine is light, with a rich musky the narrow to the compact its force. the upper part of the cornea at its junction with the sclerotic, the pieces are taken out, the cut edges put together, and the eye bandaged,

He took part in the conspiracy against 8000.

leased by a spring. The name C. is Conza (1866), upon the abdication of forked twig and a piece of india- under Prince Charles of Hohenzollern: he held this position again in 1871-6, 1889, and 1891-5. During his last premiership a scheme of peasant-proprietorship of small holdings of state land was brought in, and a state agricultural bank was established.

Catarmán, a pueblo on the N. coast of Samar, Philippines. at the mouth of the Catarman R. The town was partly destroyed by a volcanic eruption in 1871. Pop. (1903) 9994.

Catarrh, inflammation of the mu-cous membrane, accompanied by a more than usual discharge of mucous fluid from off it. In an ordinary cold the membrane of the nose and upper

part of the throat is inflamed.

Catarrhina, the name sometimes given to a group of monkeys which caused by a blow. It is painless and given to a group of monkeys which unaccompanied by inflammation. One comprises the families Cercopithe-eye is often affected alone, and blindness is caused for all general purposes, but the patient is able to distinguish the patient is able to distinguish the patient is able to distinguish the which comprises the remaining light from darkness. The lens itself two families, the Hapalidæ and is not omogeneous, but consists of Cebidæ, chiefly in having their nostrils numerous concentric layers increasing close together and looking downin density from the outer to the central parties, the arrival and supposed to those looking outrad as opposed to those looking out-tral portion, the whole being trans-ward and separated by a broad parent capsule. The formation of the C. is gradual, either starting from the centre or from the edges, and when it has covered the whole of the lens, the cheek pouches, thirty-two teeth, and latter is filled with a homogeneous their tails when present are never pearly white or amber coloured prehensile. The other species have thirty-six teeth, no ischial callosities or cheek pouches, and their tails are

> Catarroja, a tn. of Spain, in the prov. of Valencia, and 6 m. S. of the city of that name. Fishing and the cultivation of rice are the chief in-

dustries. Pop. 7000. Catauxi, a warlike, cannibal tribe. living in Western Brazil. They go naked, and wear bangles and anklets. The men are very handsome, with fair complexions, and are extremely strong. They mould and ornament pottery, and cultivate manioc extensively.

flavour, and may be either still or sparkling. Its name is taken from the Catawba R. of the Carolinas on which

put together, and the eye bandaged. In either case strong convex glasses must be worn after the operation to replace the missing lens.

Catargi, Lascar (1823-99), a Roumanian politician, born in Moldavia. Sent to the S.E., the principal exports manian politician, born in Moldavia.

very different species of birds which resemble one another only in that they emit a curious mewing sound. One of these, Eluredus viridis, is an Australian bird closely allied to the bower-birds; the family to which it belongs is the Paradiseide. The other is an American member of the family Turdidæ, is related to the mockingbird and is called technically Galeoscoptes carolinensis. The colouring of the two is also different, the former being a bright green, the latter a slate-grey.

Catch, a round in which each singer in turn catches up, as it were, the words from his predecessor and which is so contrived that this catching at each other's words distorts the sense,

giving it a humorous or absurd turn. Catchfly, the name applied to many species of the caryophyllaceous genera Lychnis and Silene which are very common in Northern lands. They obtain their name from their ability catch insects by means of glutinous substance which is exuded from the calyx and glanular hairs on the stalks. In both genera the calyx is gamosepalous and the stamens are ten in number, but in the genus Silene there are only three styles, while Lychnis has five styles and five carpels. S. nutans, the Nottingham C., is a night-flowering species, common in meadows, and is pollinated by moths; L. viscosa, clammy C., and L. viscaria, German C., are European species with protandrous flowers which are pollinated by bees, butterflies, and moths; S. marilima, seaside C., has fleshy leaves; S. rotundifolia, round-leaved C., and S. antirrhina, snapdragon C., are American species. Dionaa muscipula, the Venus' fly-trap, which belongs to the Droseraceæ, is sometimes called the Carolina C.

Catching Bargain (also Snatching Bargain), means a purchase made from an expectant heir of his reversionary interest in real or personal property for an inadequate considera-tion. The law was formerly very stringent in setting aside such bargains, but mere undervalue will not now operate to nullify 'a bargain if made in good faith and without

fraud or unfairness.

Catchpoll (catch and poll, the head), a term of reproach used to denote the assistant of a bailiff, whose duty it was to make arrests. It was also used to mean a tax-gatherer. The term, which is now obsolete, was derived by analogy from 'catch-pole,' a six-foot pole fitted with springs and so constructed as to enable fugitives to be caught by the neck.

Cateau-Cambrésis, a tn. in the dept.

Cat-bird, the popular name of two of Nord, France, 14 m. S.E. of Cambrai. There are wool, cotton, sugar, and soap factories, breweries, and potteries; woollen goods are manufactured, and cattle-dealing is carried on. In the 16th century it was for a time held by the English who, however, had to surrender to Dunois. The treaty of C. was signed here in 1558 after the battle of Saint Quentin.

Catechism

Catechism (Low Lat. catechismus, from catechizo, to catechise; from Gk. κατηχέω, to catechise, instruct; all from a root word meaning echo):

1. Religious instruction given by means of questions and answers. 2. A book of elementary instruction containing, by means of questions and answers, an exposition of religious dogma. 3. Elementary instruction. oral or written, in any branch of knowledge. In the early days of Christianity the C. was the instruc-tion given to pagans, Jews, and others, in preparation for baptism, and for admittance to the number of the faithful. He who received the instruction was called the catechumen. and he who gave it the catechist. The catechumens occupied a special place in the basilica, either under portico or in the anterior gallery. They were not allowed to remain for the sacrament, this being a mystery into which they were initiated only after baptism. During the first centuries the preparation was long, taking at first three years, then two: later everything was changed, and infant baptism was instituted, the instruction being given afterwards and. as it were, a repetition of the baptism taking place under the name of confirmation. There remains no formula of catechism used by the church of antiquity; the catechism was then a real and prolonged education in morals and dogma. The earliest Christian and dogma. The earliest Christian Cs. are those of Kero, a monk of St. Gall in the Sth century, and of Ottried a monk of Weissenburg in the 9th. It was from the time of the Reformation that the little books called Cs. spread and multiplied. This was due to a renaissance of religious proselytism springing from the emulation between Catholics and Protestants. The Catholic Church found it necessary to define and formulate its faith, and for this purpose it issued in 1566 the Summa Doctrinarium of Peter Canisius, in opposition to the Protestant Cs. of Luther. A little later came that of the Council of Trent, laying down a uniform planof instruction, and giving a model to the curés, who were enjoined to teach it at least on Sundays and feast days. This was a period of great enthusiasm, provoked by the spread of Protestantism, for the C. priests were instructed to make the

the children, by the use of gentle and maternal language, the offering of little rewards, and so on. Later came other Cs., among the Catholics those of Bellarmine in 1603, of Bossuet in of Belarmine in 1803, of Bossuet in 1870; and the Schema de Parvo in 1870; among the Protestants, the Genera Catechism of Calvin in 1836, the Catechism of Heidelberg in 1863, the Zurich Catechism, and in 1849 the C. which, with additions by Bishop Overall in James I.'s reign, forms the English Protestant C. of the present day. The Scottish Presbyterians have Craig's C. (1592) and that of the Westminster Assembly of Divines (1648) now in use. The Jewish Cs. include The Thirteen Articles of Belief (12th century) of Marmonides, Rabbi Levi's Book of Education, and those of Leser and Piscotto in use at the present!

day. Catechu, or Cutch (cate, tree, chu, juice; Malay kāchu), an extract obtained from several plants, especially from the wood of Acacia calechu and Acacia suma, natives of India. This kind is known as 'black C.,' and is used in tanning and dyeing. The best quality, called 'Pegu C.,' is obtained in blocks covered by large leaves. The 'pale C. of pharmacy,' or 'gambir' (Terra japonica) of comgambir (1977) applicately to com-merce is a similar extract produced from the leaves of Uncaria gambir and Uncaria acida, plants of the East Indian Archipelago. It is sold in dry cubes about one inch square, and is used medicinally as an astringent, and also largely in tanning and dyeing, rielding a register of drains browns. yielding a variety of drabs, browns, and olives. It is often used for colouring stout canvas. Its main ingredients are catechuic acid or catechin, and a peculiar variety of tannic acid. 'Areca C.' is obtained from the fruits of the

areca or betel palm. Categorical, a term in logic. Aristotle used it in its merely literal signification of that which is affirmasignification of that which a tive as opposed to the negative. In later logic it denoted a proposition which is asserted absolutely in contradistinction to one that is hypothetical or involves a condition. still has this connotation, but the distinction between C. and hypomodern logic to be one c" or content, and not one dependent on the gran of the words used. See Whately's Logic and Bosanquet's Logic.

of an mora naws. He here that the principal works being 'Knight Kneel-will or reason was guided in any ing before the Madonna' (National given direction by an a priori cognigent (Gallery); 'Madonna between St. tion of what we ought and what we Francis and St. Jerome' (Venice).

teaching as attractive as possible to ought not to do in a particular set of circumstances: and that we were free to obey or disobey, morality being neither empirical nor a question of self-interest. This unconditional rule of duty, which is valid because innate, Kant calls the C. I., and contrasts it with a command the validity of which is dependent on some presupposed end, e.g. self-interest. Schopenhauer attacked the theorem of the C. I. by saying that Kant confused reason with virtue and that in reality he made all actions depend upon selfinterest.

Category (Lat. categoria, Gk. Karnγορία, accusation, assertion), a term in logic and philosophy applied to certain general classes under which objects of knowledge can be arranged. The name was first used by Aristotle for the classification of all kinds of predicates. His Cs. are ten in number: substance, quantity, quality, relation, place, time, situation, possession, action, and suffering. This arrangeby the Stoic ment was disputed philosophers, and various alterations and reconstructions have been made since. The other great use of the term is the Kantian. Kant applied the term to the conceptions which the mind forms to raise the matter of knowledge received from the senses into an intelligible notion. His Cs. are: (1) Quantity, including unity, plurality, totality; (2) quality, including reality, negation, limitation; (3) reality, including substance, causality, reciprocity; (4) modality, including possibility, existence, necessity. These Cs. only deal with the a priori conceptions of the understanding and later pullscaphers have standing, and later philosophers have extended the use of the term to cover any necessary conception under which reality may be thought, and have given them an objective instead of only a subjective significance. Hegel was the completer of this work, begun by Fichte, and he divides all Cs. into three great classes-being, essence, and concrete thought—each subject to much subdivision. J. S. Mills classifies all describable things as: (1) feelings or states of consciousness; (2) the minds which experience these distinction between C. and hypo-feelings; (3) the external objects thetical judgments is considered in supposed to excite sensations; (4) essions and co-existences. and unlikenesses between

r states of consciousness. Catena (properly Vincenzo Biagio) (c. 1470-1531), Italian an a disciple of Glovanni Bellini. ked chiefly on portraits and and historical subjects, his

' Count Raymond Fugger' There are many examples of his work at Venice-in the Doge's Palace and in the churches and the

Catenary (Lat. catena, a chain), the name given to the curve in which a

cord or chain of uniform material and sectional area hangs when loaded with its own weight alone. The cartesian equation of the curve is y = aThe uniformly distributed rope curve is called the common C. to distinguish it from other curves which are formed when the distribution is otherwise. Thus when the loading of any portion is proportional to the horizontal projection of that portion the curve formed is the parabola, as in the case of the chains of a suspension bridge. The properties of the common C. are interesting and various. The chief are: (1) If a horizontal line be drawn at a distance below the lowest point of the string having a weight equivalent to the tension at the lowest point, then the tension at any point in the string or chain is equal to the weight of a portion equal to the distance of the point above the horizontal line. The atter line is called the directrix of the C. (2) The radius of curvature at any point is equal to the portion of the normal intercepted between the curve and the directrix, (3) Of all curves of given length, drawn between two fixed points in a horizontal line, the common C, is that which has its centre of mon C. is that which has its centre or gravity furthest from the line joining the points. (4) The horizontal com-ponent of the tension at all points in the string is constant. (5) The area bounded by the vertical line through the vertex and the vertical line through the other extremity of any arc is equal to the length of arc multi-plied by the height of the other explied by the height of the other ex-tremity above the directrix. If the string or chain vary in diameter so that the area of section at any point is proportional to the tension at that point, the curve in which the string hangs is called the C. of uniform strength.

Catenipora, the name given by Lamarck to a genus of fossil coral called Halysites by Fischer. ccelenterates are known as chaincorals, and occur only in the Ordovician and Silurian.

Cateran (Gaelic and Irish ceathar-nach, a soldier), originally an Irish or Highland irregular soldier, a kern; now usually meaning a Highland

freebooter or reaver.

Caterham, an urban dist. in the Wimbledon division of Surrey, Eng-land, 7 m. S.E. of Croydon, and 20 m. S. of London. The Metropolitan Dis-

trict Lunatic Asylum is here, and the Guards' Barracks. Pop. 10,000.

Caterpillar, the name given to the larvæ of the Lepidoptera, or butterflies and moths. It is a worm-like animal which consists of a head and thirteen segments, the first three being thoracic and the last ten On the first three segabdominal. ments there are six true legs, each of which is jointed; and the abdominal segments often bear a varying numsegments often bear a varying num-ber of tubular pro-legs, each ending in a circlet of small hooks, the last two being claspers. These larvæ are curiously dissimilar to the perfect insect in that they possess large mandibles, while their maxilke and labial palps are small. The spinneret, or the organ by which the silk is or the organ by which the silk is exuded, opens on the middle of the labium, and sometimes projects as a spine. The sense of sight is very rudimentary, as are the other senses, for this larval stage is essentially a feeding period in the life-history of the insect, and every effort is made in the direction of storing up food ready for the resting-stage. As might be expected in this voracious creature the stomach is extremely large, and it is also very simple in structure. The skin often contains oderiferous and other glands; it is very thin, and a slight wound will cause it to break and exude so much blood that the larva soon dies. The sexual organs are rudimentary and cannot be seen externally, but that they do exist has been fully proved, and in a few cases the sexes are said to differ in colour. The C. is frequently a brightly-coloured creature, more especially when its unpleasing taste gives it no cause to fear birds or other enemies, but at other times it is colourless, or takes on the hue of the plant on which it lives. It may be smooth or covered with hairs. Mimicry prevails very greatly among the various species, and the appearance of some which resemble twigs is most remarkable in its perfection. A serious enemy to the larve are the ichneumon-flies, which have the unfeeling habit of depositing their eggs in the soft bodies of the feeding lepidoptera; as the eggs hatch the resulting larvæ use up the reserve material in the bodies of their host, so that when the resting-stage comes the creature has no stored-up food and consequently dies.

Catesby, Mark (c. 1679-1749), an English naturalist, born in London. From 1710-19 he travelled in N. America and gathered together a remarkable collection of plants. From 1722-26 he was again in Carolina. On his return he published Natural History of Carolina, Florida, and the Bahama Islands, Hortus Britanno-Americanus, and a work on the fishes, reptiles, and insects of the islands of Providence (1731-43).

Catesby

islands of Providence (1731-43).
Catesby, Robert (1573-1605), an
Englishman, born at Lapworth,
Warwickshire, of good fortune and
family. In 1604 he joined a group
of conspirators, including Thomas
Winter and Guy Fawkes, and was
involved in the Gunpowder Plot (Nov. 5, 1605). On the discovery of the plot he attempted to escape, but was shot at Holbeach in Staffordshire.

Cat-fish, the name given to any member of the family Siluridæ, the species of which are characterised by having a naked or bony skin without scales, a small maxillary bone and the presence of barbels about the They inhabit all temperate and tropical regions, and only rarely enter salt water. Over 1000 species are known to exist, and these vary greatly in nature and habit; among them may be mentioned Malapterurus electricus, the C. of the Nile which gives an electric shock, Siluris glanis, the wel of German rivers which weighs three to four hundred pounds. ponderosus. the Ictalurus white channel-cat of the Mississippi, which is one of the largest fresh-water fishes, and the genera Callichthys, Doras, Oxydoras, and Rhinodoras, which travel overland in dry seasons for new ponds.

Catgut, the name given to the cord made from the intestines of the sheep. ox, horse, mule, and ass—never from those of the cat. It is supposed that the proper word was kilgut, kil meaning fiddle, and that it has become con-fused with the word kit used for cat. C. is made into strings for harps, violins, and other musical instruments, for bow-strings, whipcord, for hanging weights of clocks, suturing wounds, and for 'belts' for driving lathes. The intestines are thoroughly cleansed, scraped, rendered aseptic, and drawn through a perforated brass

thimble. Cathari, a wide-spread heresy ex-tending among the Gnostics of the middle ages, gave rise to this name, which signifies 'pure,' and comes from the Greek **\alpha \text{paragraphic}, 'a cleansing, purification.' The C. assumed different names in different countries. In the East they were called Bogomils or Paulicians: in the West they were called Paterini, because they held their meetings where the rag-pickers used to meet, in the street Pateria. The heresy first started in the 10th

were divided into two classes, the 'Perfecti,' and the 'Credentes,' or 'Believers.' The Perfecti were saints on earth to whom the Believers gave unquestioning obedience, and whom they even adored. They believed that Satan was the ruler of this world, which was a kind of Purgatory or Hell, but they believed in the ultimate salvation of all mankind; man might have to return to this world more than once before his reconciliation with Christ was complete. Some even held the doctrine of metempsychosis.

Cathartic, a medicine used to produce evacuation of the bowels. term is often used to describe a purgative moderate in its action, more forcible than a laxative, but more gentle than a drastic purgative. The action usually is to cause an increased flow of secretion from the lining of the

alimentary canal and so aid in the removal of irritating matter. Cathay, the name by which China was commonly known in Europe during the middle ages, introduced by Marco Polo and derived from Khitai or Khitan, the earliest Mongolian tribe known to have conquered China, who disappeared early in the 12th century. The Russians still call China

Kitai. Cathcart: 1. A par, and tn. in Ren-frewshire and Lanarkshire, Scotland, near the White Cart Water, and 3 m. S. of Glasgow, of which it is a suburb. D. O GIASGOW, OI WHICH IT IS A SUDUPI-Industries, paper-making and dyeing. Pop. of par. 28,200; of tn. 4808. 2. Å dist. and tn. in S. Africa, in the S.E. prov. of Cape Colony, 109 m. N.W. of E. London by rail. Pop. (1910) of dist. 12,000; of town 1800. Catheart, Charles Murray (1783-1859), second Earl Catheart and another distinguished soldier. Son of

another distinguished soldier. Son of Sir William Schaw Cathcart. Joined the Life Guards in 1800. Served as licutenant-colonel at Salamanca and Vittoria. Took part in battle of Waterloo (1815), and received the C.B. Of a scientific disposition, he discovered the mineral greenockite. Sent to Canada in 1846 as commander-in-

chief. Cathcart, Sir George (1794-1854), third son of the first Earl Cathcart, third son of the first Earl Caleactor, likewise a brilliant soldier, and took part in the Furopean campaigns. Was aide-de-camp to the Duke of Wellington, and served at Quatre Bras and Waterloo. Was present with his father at the Congress of Vienna (1814). Appointed commander of King's Dragoon Guards in 1838 and sent to Canada to quell the insurrection. In 1852 was made governor of and lasted till the middle of the 14th tion. In 1852 was rade governor of century, when it became rooted out the Cape and brought the Kaffir War by the Inquisition. Some curious to a speedy termination. Made K.C.B. tenets are ascribed to the C. They in 1853. Killed at Inkerman. Wrote

Commentaries on the War in Russia | VIII. had his marriage publicly

part in attack on Copenhagen (1807). Was present at Congress of Vienna, and created earl in 1814

Cathedral (Lat. cathedra, a seat or throne), the principal church of a diocese, that in which the archbishop's or bishop's throne is placed. In the primitive churches the throne was placed in the apse, behind the altar, in such a position that the bishop faced the officiating priest; its position is now usually on the south side of the choir. Originally Cs. had a civil as well as a religious function, political assemblies being held in them under the presidency of the bishop. Until the end of the 12th century they were of no extraordinary dimensions—many of the abbey churches were much bigger. But at But at this period, kings and ecclesiastics co-operating, magnificent buildings co-operating, magnificent buildings sprang up, and in the 13th century grand ceremonies took place in and about them, when amid the pealing of bells the bishop and chapter went forth to receive the king at the entrance to the town. The administration of the C. and of the diocese is carried on by the chapter.

Cathelineau, Jacques (1759-93), a linen-merchant of scanty means, who headed the Vendeans in their opposi-

headed the Vendeans in their opposition to the French Revolution—called by the peasants 'the Saint of Anjou,' on account of his great piety and physical prowess. Seized the castle of Gallais, together with a cannon (nick-named the Missionary), and offered a stout resistance to the revolutionary insurgents. Very successful at first, seizing Fontenay and Saumar. C. then created general of the forces. Made an attempt in 1793 to capture Nantes, and succeeded; was mortally wounded; his troops at once routed.

Catherine of Aragon (1485-1536), daughter of Ferdinand, King of Spain, and of Isabella of Castile; wife of Henry VIII. of England. C. had first been married to Prince Arthur, eldest son of Henry VII., but was left a widow after five months. Her father refused to pay the rest of her large dowry unless the king would consent to her marriage with Prince Henry. Henry VII. obtained a special disto her marriage with Prince Henry. Henry VII. obtained a special dispensation from the pope sanctioning Portugal, and wife of Charles II. of the union. On his accession Henry Great Britain. C. brought Charles an

Commentaries on the war in Annual Commentaries on the war in Annual Commentaries on the war in the convenient of the conveni campaign, where he was promoted, astical court in London to try the Made licutenant-colonel of Cold-question; the court pronounced his stream Guards (1781), and comman marriage with C. null. C., who had der-in-chief in Ireland (1802). Took been a faithful wife and good mother, sorrowfully retired under the title of Dowager Princess of Wales.

Catherine of France, or Valois, daughter of Charles VI. of France (1401-38), married Henry V. of England, as arranged by the Treaty of Troyes, 1420. Their son was Henry VI. (1422-61). Henry VII. and the Tudor house were descended from her and

her second husband, Owen Tudor.
Catherine de' Medici (1519-89),
daughter of Lorenzo de Medici, and wife of Henri II, of France. She was an orphan, and married, in her fourteenth year, the second son of Francis I. For many years she lived childless and obscure, her whole policy as dauphiness being to gain and keep the favour of Diane de Poitiers and the favour of Diane de Potiers and the Duchesse d'Estampes, the mistresses respectively of her husband and father-in-law. She observed much, however, and gained a keen insight into the intriguing statecraft of the period. During the reigns of her husband and her son, Francis II., her life was little less nassive, though she husband and ner son, granes 11, ner life was little less passive, though she artfully managed to help the schemes of the Huguenots—not out of any sympathy for them, but to play them off against the Guises (uncles of Marie Stuart, wife of Francis II.), whom she hated and feared while appearing to support them. Her one aim was to control the power of the Guises and make her family supreme. On be-coming regent at the accession of her second son, Charles IX., she entered upon a course of preposterous cruelty and corruption. Craftily she played with England and Spain, and the Huguenots, using them unscrupulously to serve her own purposes, stirring up the discord and hatred which culminated in the massacre of Saint Bartholomew's Day. She died discouraged and in despair a short time before the assassination of her youngest son, Henri III., leaving the country in a state of anarchy and confusion. C. had all the Medici love for art, and she found time to take an active part in planning the Tuileries, in enriching the Biblio-thèque Nationale, etc.

Africa, but the marriage was exceedingly unpopular in England. It was also very unhappy, for Charles treated his wife with contempt and indifference, and heaped insule upon her. He, however, took her part twice against his infamous court. After a miserable life as 'a stranger in a strange land,' she returned to Portugal in 1693.

Catherine Parr, sixth and last wife of Henry VIII., daughter of Sir Thomas Parr. She was a learned woman, well versed in literature and theology, and a zealous Protestant, which made her obnoxious to the Papal party, and also irritated her husband, for she tried to persuade him into completing the work of the Reformation. She was regent during Henry's expedition to France in 1544. After the death of Henry she contracted a marriage of affection on her part and of interest on his—with Sir Thomas Seymour, lord-admiral of England, who neglected and illtreated her. She published two

reacted her. She published two rolumes of devotional writings. Catherine I. (1683-1727), the wife of Peter the Great, was of obscure birth. Her first husband, a Swedish dragoon, was slain and she herself was taken prisoner at Marienburg. She became the mistress of Bauer, and then of Mendschikoff, but the Czar fell in love with her, and in 1723 she was crowned Empress of Russia. On his death in 1725 she continued to reign alone through her favourite Mendschikoff. Energy, good sense, and a lively interest in science and art characterised her rule. The 'Verkhovny Tainy Sovyet, or supreme privy council, was instituted in her

Catherine II. (1729-1796), Empress of Russia

Prince of of Stettir

shal. In 1745, after having adopted the name of Catherine Alexievna, and renounced her membership of the Lutheran, in order to join the Greek church, she was allowed to marry Peter, the nephew of the reigning Empress Elizabeth, and the prospec-tive heir to the throne, Her husband shared all the pettinesses of a small mean type of military which has been aptly corporal's mania. For a

corporal's mania. For a corporal's mania. For a corporal's mania. For a corporal's mania. For a corporal's mania. For a corporal corporal corporal corporal corporal corporal corporal corporation of the wife, and C. came to a woman she was fingrantly and the throne. Though it is a disputed frankly immoral: her lovers, of whom point, it is probable that her son the first was Count Soltikoff and the

enormous dowry, together with Bom-1 Paul, who bore a strong resemblance bay and the fortress of Tangier in to Peter III. was really her son by her husband. She was a harsh mother to him, and whilst she lived, denied him every vestige of authority. As a ruler, C. showed herself to be pos-sessed of indomitable energy, an iron will, and great ambitions for territorial expansion. But her determina-tion to advance her various paramours to high offices, regardless of their capabilities, played havoc with her army organisation, her generals being often quite incompetent, and detracts from every estimate of her as a statesman rather than a scheming politician. Thus in 1763 she triumphantly placed her former lover and favourite, Stanislaus Poniatowski on the Polish throne, and would always insist, despite every evidence to the contrary, that Potemkin, who enjoys the unenviable reputation of being most notable of her many the admirers, was superior to Suvarov in strategic genius. The most conspicuous of her services to her country was her consolidation of the empire and the enlargement of its frontiers. For she insisted on her full share of the spoil after each of the three iniquitous partitions of Poland (the first in 1772), and successfully manœuvred the acquisition of Courland, nor did she come out of the war with Turkey, which ended with the peace of Kainardji in 1774, or the subsequent war with Sweden, which terminated in 1790, without substantial additions to her sphere of influence. As empress, C., who was a disciple of Voltaire, prided herself on being guided by

irresolution and instability which marred much of her work, as also for her passion to begin enterprises which she had not the perseverance to complete: in her own words, she was a splendid 'commenceuse,' During her reign the internal admin-istration of Russia was good probably because, where her ardour slackened. there were officials willing to carry out her plans. Of her foreign policy it may be said that she was always in-fluenced by her desire to build up a great and flourishing kingdom—a patriotic desire which won her the figured with small-pox, addicted to the respect of many rival Powers. loathsome habits and actuated by a But sometimes her aims were extrafor instance when she the idea of overthrowing

last Platon Zubov (with whom she lived when she was sixty-seven), succeeded one another without intermittance, and occupied almost a definite post to which a huge salary was attached. Her admiration of Voltaire led her to despise religious sects, but though her irreligion induced her to favour toleration, she refused permission to build dissenting chapels. To her 'entourage 'she was both kind and generous, and in her household she insisted on conformance to all the outward decencies. She had a passion for writing very poor stuff, and loved the flattery which Voltaire and

lavished on h tism was sho

towards the French Revolution, as also in her unwillingness to proceed to the emancipation of the seris.

Catherine, St., V. M., whose festival falls on Nov. 25. Little known about this saint; always depicted in art with her wheel and crowned. Various legends exist, amongst which may be cited the translation of her body by angels after her martyrdom to Mt. Sinai. Her prayer before her death, that the world might be converted. was granted, for when Constantine defeated Numantius, the world became Christian.

Catherine de Ricci, St., of noble parentage, born in Florence in 1522. Entered the convent of Dominicans at Prato, and died in 1589. Pope Benedict XIV. canonised her, 1746, and her calender date is Feb. 13.

Catherine of Bologna, St., born in 1412. Belonged to a noble family. Joined the order of Poor Clares at the age of cleven, and in later years was appointed prioress of the Convent of Poor Clares at Bologna. Had a beatific vision of the Virgin and Infant Son.

Catherine of Genoa, St., born of noble parents in 1447. Canonised by Clement XII. in 1737. Unhappily consequently separated.

and the sick and poor.

Catherine of Sienna, St., born in 1347. Her father was a dyer by trade. Subject to ecstatic visions from her carliest childhood, she belonged to the Order of St. Dominic, and her father confessor, Fr. Raymond of Capua, wrote a detailed account of her life and winter. her life and visions. This saint was evidently subject to cataleptic fits, brought on through her unnatural and terrible mortifications, but she was rewarded for her holy zeal with most glorious visions. On one occa-sion she declared that she saw Our Lord scated in glory in the midst of His disciples.

natural impression on her hands and feet of the sears and wounds inflicted upon the Saviour on the cross. though an illiterate girl, she exercised great religious and political influence, for she was instrumental in bringing the pope back to Rome, and she succeeded in reconciling Florence to the holy see. During her short life here on earth she was at times subject to the most terrible temptations, but Christ appeared to her and comforted her. She died at the age of thirty-one.

Catherine of Sweden, St., daughter of Prince of Nierck and St. Bridget. Placed in a nunnery of Risborg when seven. Became abbess of Vatzen and died in 1381.

Catherine Hall, identical with St. Catherine's College, Cambridge. The college was opened on St. Catherine's Day. 1473. Its founder was Dr. Robert Woodlark, who had been chancellor of the university in 1459 and 1462. The subjects laid down for study were such as tended to 'the exaltation of the Christian faith, the defence and furtherance of Holy Church, the growth of the sciences and faculties of philosophy and sacred theology. Law, which was becoming a very lucrative profession, was rigorously excluded, as public feeling was strongly against its being combined with the priesthood. The statutes do not specify any other subjects of study, but other instruction, law not excluded, is now given.

Catheter, an instrument used in surgery for the purpose of allowing the passage of fluids through tubes in the body which for some cause have ceased to allow passage naturally. Thus, it is introduced into the urinary bladder of persons unable to pass their urine or into the eustachian tube when it is stopped up by catarrh. It is a hollow tube made either of silver (by reason of its cleanliness), or of a more flexible material, such as gum clastic or vulcanised rubber. The urinary married, consequently separated, vulcanised rubber. The urmary Devoted her life to nursing the lepers C. in the male is about 10 in, long and curved into a requisite shape, which in the case of the flexible materials can be produced by warming and ben'inc. In the female the tube is shorter (being only 5 in.) and straighter. The introduction of the instrument must be carefully performed. The custachian C., which is generally of silver, is curved slightly at one end and about 7 in. in length. Cathetometer, an instrument for

the accurate measure of small differences of height or of level between two near points. It consists of an upright graduated rod, carefully levelled in a vertical position, upon which a On another occasion horizontal telescope slides up and she received the stigmata or super- down. The rod is provided with a objects in the distance traversed by dox, and Roman churches. There the telescope on the vertical bar. As is an abundance of ceremonial, an constructed for the physicist, with extreme use of symbolism being one numerous additional arrangements of the main features of the cult. See to ensure accuracy, such as cross-i.G. Miller's History and Doctrines of the cult of the main features of the cult. numerous accuracy, such as cross- G. Miller's History and Doctrines of wires and the micrometer eyepiece of Irvingism, 1878.

designation of a body of Christians who are better known under the name of Irvingites, given to them on account of their connection with the Rev. Edward Irving. Irving, when a minister of the Scottish Church, Regent's Park, London, turned in the direction of mysticism. He insisted that the miraculous gifts of the early church were to be continued throughout the new dispensation. Just at the time there came reports of miraculous gifts of healing and of tongues, and his congregation received them as authentic. In 1832, Irving was deposed from the ministry, and formed a congregation which later took to itself the title of C. A. C. This sect does not differ in any of its dogmas from the church catholic, but it superadds complicated ministerial arrangements. After Irving's deposition, at meetings held for prayer, certain persons claiming prophetic gifts marked out six others as 'called to be apostles of the Lord.' In 1835 six others were designated in the same manner to complete the number of twelve. These apostles are invested with the special spiritual powers of the apostles; they alone can ordain. To them is committed the discipline of the church universal, and the care of the mysteries of God. They alone have the power of inter-preting the sayings of the prophets. The apostles then proceeded to ordain others to the ministries of prophets, evangelists, and pastors, and also to choose seven deacons to look after temporal affairs. The duty of the prophets consists in exhorting to holiness, interpreting Scripture, opening prophecies and explaining symbols. The chief work of the evangelist bols. The chief work of the evangelist granted to Roman Catholies in the is missionary endeavour, and the United Kingdom and Ireland at the pastor has the charge of individual end of the 18th century and begin-congregations. The original plan was ning of the 19th. After the Reforto form a central governing body of mation, Roman Catholies in both forty-eight apostles to control. forty-eight apostles to contro church universal, but this has been carried out. The last c

vertical scale which indicates the original twelve died on Feb. 3, 1901. difference of level between the two The liturgies of the C. A. C. are liturgio-points under observation and the logically excellent, being based on difference of height between the two those of the Anglican, Eastern Ortho-

the telescope, the C. records with a high degree of accuracy. One of the most usual uses is to test the difference between the levels of the mercury in the tube and in the cistern of a barometer.

Tennism, 1878.

Catholic Church (Gk. καθολικός, universal), name adopted in the 2nd universal), name adopted in the 2nd universal) the Christian Church, to indicate the whole body of believers. It arose in special distinction from the cistern of a barometer. cathode, or Kathode, see ANODE for one nation alone, whereas Christand ELECTROLYSIS.
Catholic Apostolic Church, the designation of a body of Christians truth came to rest in the unanimity which the various churches founded by the apostles showed where the apostolical traditions had been handed down. Hence the C. C. was the term used to denote the body of orthodox Christians, in opposition to local sectaries. This notion of orthodoxy acquired prominence in the East where the Holy Orthodox Church maintains the ancient faith. In the West, the growth of the papacy as the centre of church government led to the word 'Catholic' meaning 'in communion with Rome.' When the Reformation came, the Reformers did not all repudiate the term Catholic, and the English Church retained the word in her creeds. But by common consent the word Catholic continued to be applied to the Roman Church, and this usage generally continues, more especially on the continent, where the reformed churches were more violent in their changes than was the church in England.

Catholic Creditor, in Scots law, where a creditor's debt is charged on covered different parts of his debtor's

several different parts of his debtor's property, he is called a C. C. A C. C. may realise simultaneously all his securities if necessary for fully satisfying his debt. But he is bound to allocate his catholic (Gk. καθολικός, universal) debt proportionally against all the secondary creditors affected by it, and not in such a way as to prefer one co-creditor to another. If he takes full payment out of one security to the exclusion of the other securities, he must assign the other securities to the secondary creditors.

Catholic Emancipation, the free-dom from civil disabilities which was

The saying of Mass in England was made felony for a foreigner and high treason for a native. Roman Catholics were not allowed to purchase land, and persons educated in the Roman faith were incapable of inheriting Ireland, property. In Roman Catholics so holding land could be dispossessed without ceremony by the nearest Protestant relative. Roman Catholics were not allowed to undertake the guardianship even of Roman Catholic children. In 1780 a bill by Sir George Saville was introduced to repeal the most oppressive of these regulations in the case of those Roman Catholics who would submit to a certain test. This test required the denial of various doctrines subversive of the state such as: that no faith is to be kept with heretics; that princes excommunicated may be deposed or put to death, and that the pope has any temporal jurisdiction in England. This bill passed, but the effort to include Scotland under it led to such outbursts of fanaticism that the project had to be dropped. The Gordon Riots in England occurred at the same time out of sympathy. In 1791, another bill was passed, still further lightening the Roman Catholic burden, and in 1792 this act was made to comprehend Scotland. Meanwhile the agitation among Irish Romanists to secure similar concessions was by no means successful. though here the laws were strictest. Attempts had been made in 1780, and the discontent finally broke out in the rebellion of 1798. In 1824 a Association Roman Catholic was formed under the influence of O'Connor, stimulated by the fact that many of the reforms which had been promised in order to bring about the Union in 1801 had not been carried out. In 1829, the Duke of Wellington reluctantly came to the conclusion that the peace of the empire would be imperilled if the numerous disabilities were not removed, and the Catholic Emancipation Bill was carried, followed in the same year by the Catholic Relief Bill. This gave Roman Catholics the right to sit in the Houses of Paliament, and gave them admission to most civil offices. At the present time no Roman Catholic may be Sovereign, Regent, Lord Chancellor, Lord Keeper, of Great Britain, or Lord High Commis-sioner to the Church of Scotland. Catholic Epistles, the name given

to seven epistles among the canonical books of the N.T. which are addressed to the church universal and not to the Christians at particular towns. Of the seven epistles, those bearing the names of James, Jude, Peter (2),

I. were at first generally received as The title 'Catholic' discanonical. tinguishes this group of epistles from those bearing the name of Paul.

Catholic

Catholic Truth Society, established in Great Britain for the spread of an intelligent comprehension of the Roman Catholic faith. It was founded in 1872 by Dr. Vaughan, but it was revised, enlarged, and almost recommenced in 1884. Its work is both educational and propagandist. provides and circulates among Roman Catholics, books of devotion, and works of instruction on the faith with polemical works enabling them to defend their position. It also publishes books for Protestants, explaining and defending the faith and practice of the Roman Church. endeavours generally to promote the sale of cheap Catholic books of any kind. All its works are popular, and at low prices, the general price being one penny. The society is non-political, and has the cordial approval and support of ecclesiastical authorities, The head offices are at 69 Southward

Bridge Road, London, S.E. Catholic University Question, Ire-

land. The demand by Irish Roman Catholics for the establishment of a Roman Catholic University began even before the time of Disraeli. The House was for years consistently opposed to the proposals for any Roman Catholic endowment, Disraeli basing his personal opposition to the establishment of a university on the support given by the Irish Catholic members to the disendowment of the Protestant Church of Ireland. In Feb. 1891, Mr. Dillon raised the ques-tion in reply to the speech from the throne, and endeavoured, in detailing the history of the agitation which began in 1856 and was made a cabinet question in 1896, to show that the demand was made by Protestants and Roman Catholics alike as a matter to be settled on non-party lines. The gravamen of the case from the point of view of the agitators was that a large number of Irishmen were precluded from the enjoyment of university education, honours, and emoluments, on account of conscientious religious opinions regarding the existing system of educa-tion. From 1873 there existed the University of Dublin and the Royal University, but those institutions failed to satisfy the demands of the Roman Catholics, who alleged that Dublin University remained practically a private college, and the Royal University no more than preparatory colleges for Dublin. Mr. Balfour (then First Lord of the Treasury) spoke in support of theamendment, and agreed and John (3), only John I. and Peter with the mover that the amendment

did not propose to establish a de-1 nominational university, but to give higher education for a majority of the Irish population irrespective of any legislative protection for the Roman Catholic creed. Mr. Lecky, then member for Dublin University also Dillon's spoke in favour of Mr. Dillon's amendment recording his experience that such sectarian colleges as did exist were shunned by the Irish bishops, and that out of 3,250,000 Roman Catholics there were not more than 300 Roman Catholic students in state endowed colleges. Notwithstanding the arguments in favour of the amendment it was lost without a division. Nothing was done during the next three years, but Mr. Balfour continued to give the agitators his personal or non-party support, and view to rousing inquiry in the Times a letter with published in the Times a letter suggesting the establishment of two universities in Belfast Dublin respectively, the former to be under a Protestant, and the latter a Roman Catholic governing body. Royal Commission was appointed in 1901 to inquire into the C. U.Q. The report of the Commission, which had not a single Irish Catholic layman upon it, stated that the Roman Catholic population of Ireland, which was in an overwhelming majority, were without any adequately endowed university, and in much the same terms as Mr. Balfour's speech in 1895 pointed out that apart from any question of denominations, the matter could only be settled definitely by formulating a scheme satisfactory to the Roman Catholics, In summarising their conclusions the Com-The declared: present arrangement by which the degrees of the Royal University are attainableby examination alone has lowered the ideals of university life and education in Ireland and should be abolished, and that the system by which, in making appointments to the senate and offices, account must be taken of the religious profession of the person to be appointed, with a view to maintaining an even balance between churches, is educationally unsound. The Commission recommended the endowment and equip-ment of a new college in Dublin on the scale required by a university college of the first rank, that college to be for Catholics. Notwithstanding these recommendations the C. U. Q. remained in abeyance for two years, when, in April 1905, the matter was fully discussed in the debate on the civil services and revenue estimates, Mr. Murphy, member for Kerry E. moving an amendment to the effect that the provision in Ireland for uni-

versities was totally inadequate. Once again the amendment was lost, the Opposition basing its objections to it on the ground that Trinity College, Dublin, afforded sufficient facilities, and that university education should be undenominational. The difficulty in the way of the supporters of the amendment lay in the fact that the Opposition believed the whole agitation to be a device or plot on the part of the Irish priestly hierarchy to get complete control, by means of de-nominational tests, over higher education in Ireland. A curious feature in this debate was that Mr. Balfour, then Prime Minister, voted against the amendment, seemingly for no other reason than that the majority of the electorate in England and Scotland were as yet against the proposal. In 1908 the Irish Universities Act was passed, which provided for the substitution of two new universities at Dublin and Belfast for the Royal University and Queen's Trinity College being left College, outside the Act altogether. The two new universities were made self-governing bodies, free from all religious tests as a condition of holding any position in any foundation under the Act.

Catholikos: 1. The title of the head of the Armenian church. 2. In the later Roman empire the title was given to the receiver-general, or deputy receiver in a civil diocese. In its general sense it seems to have been applied to the superintendent-general of missions or of churches on and beyond the borders of the Roman

empire.

Catilina, Lucius Sergius, a member of a noble family in Rome who has become famous through the writings of Cicero and Sallust rather than by his own deserving. Born about 109 B.C. he took a prominent part in the civil conflicts in Rome, serving under Sulla. He had high intellectual qualities, great strength of body and mind, courage, civil and military capacity; but with all this he combined ch made him even in that ture was brutal and savage, and stimulated by lustful and this he thirsty revels on attaining a victory. In 67 B.c. he obtained the office of prætor, and went to govern the province of Africa. Here he laid plans for overthrowing the empire, and worked treacherously to gain his ends during Pompey's absence in Asia with the army. Returning from Africa in 66 he attempted to seize the consulship by open violence. He failed, but tried again and again by conspiracy and force to win it for himself, but he

was constantly foiled by Cicero. He serving as a military tribune in Macefell, still fighting against the forces of the government, in 62 B.C.

Catillus, a fossil genus of molluscs allied to Crenulata and Perna, received its name from Brongniart. In the chalk occur species of large size, remarkable for their largely fibrous texture, from which circumstance Sowerby called them Inoceramus,

Cat Island, see BAHAMAS.

Catkin, or amentum, the botanical term applied to an inflorescence which is a crowded, often greenish. more or less pendulous, spike bearing male or female flowers. In the oak, hazel, and sweet chestnut there are male catkins, and both male and female in the willow, poplar, and birch.

Catlin, George (1796-1872), an American painter and author who was also an ethnologist. Deeply interested in the American Indians, gradually out, who were dying he lived amongst them in order to become acquainted with their cus-toms, manners, and language. He came to Europe in 1840, and sub-mitted many paintings and sketches, most of which are now consigned to the National Museum at Washington. In 1841 he published The Manners, Customs, and Conditions of the North American Indians, with 300 illustra-tions. In 1844 he published The North American Portfolio.

Catmint, or Catnip, the name applied to several plants on account of the fondness which cats exhibit for their odour. The term is particularly applied to Nepeta Cataria, a species of Labiatæ which is related to the ground-ivy; the flowers are white. spotted with pink, and are arrayed closely together. Other species of closely together. Other species of Nepeta, such as N. cærulea, which bears blue flowers, are called C., Anisomeles malabarica, Calamintha officinalis, both belonging to the Labiatæ, receive the names of Malabar C. and medicinal calamint

or C. respectively.

Cato, Dionysius, is the reputed author of Dionysii Catonis Disticha de Moribus ad Filium, a book of injunctions and precents which was very popular in the middle It was translated into many languages, and Caxton printed a version at Westminster in 1483. Each apotherm is enclosed in a couplet of dactylic hexameters. The tone of the book may be described as mono-theistic rather than Christian. There theistic rather than Christian. There is an amusing reference to it in Chaucer's Nun's Priest's Tale. Nothing at all is known of the writer.

Cato, Marcus Porcius (96,46 B.C.),

surnamed 'Uticensis,' was the great-

donia, he gladly renounced fighting for a provincial appointment in Asia, where he learnt so to appreciate the merits of the general, Lucullus, that he gladly supported his claims to a triumph against the vainglorious ambitions of Pompey. Though he was no politician, Cæsar found it worth his while to despatch C. on the unpopular mission of subduing Ptolemy in Cyprus, 58 B.C. For C. had unflinchingly opposed, first, his five years' command in Gaul, then his candidature for the consulate in 59. and finally his agrarian laws for rewarding his veterans. C.'s prætor-ship in 54 was characterised by his sturdy effort to suppress bribery. In 49 he had already decided to retire from public life, when the civil war broke out, and he determined to crush the tyrant, Cæsar. Having persuaded the senate to give the supreme command to Pompey, he crossed with the latter to Dyrrhachium, where he remained when his general marched defeat at Pharsalia. remnant of troops C. crossed the Libyan desert, and shut himself up in Utica until he learnt of Scipio's fall at Thapsus, when he stabbed himself rather than surrender to Cæsar. Addison's tragedy of Cato gives a vivid picture of the heroic end of this uncompromising Stoic: his last hour was spent in reading Plato's dialogue on the soul's immortality. Posterity has perhaps magnified his fame because he was the last of the old order of Romans to die for a national ideal, which he could not realise was an anachronism. Nothing gives greater insight into his character than a remark of Cicero's to the effect that he acted as if he were in the republic of Plato instead of in the dregs of that of Romulus. Cato, Marcus Porcius Priscus (234-

149 B.C.), 'the Censor,' a Roman statesman, was brought up like his plebeian forefathers as a farmer, but in consequence of the patronage of L. Valerius Flaccus he became successively quæstor, ædile, prætor (198), and consul at Rome (195) with and consul at Rome (195) with Flaccus. As a soldier he distinguished himself for his valour and for his extreme severity both during the Punic War and his command of Sardinia. Both in the final defeat of Hannibal at Zama (202) and in the battle of Thermopyle (191), whereby the Greeks were rescued from the aggressions of the eastern conductor. aggressions of the eastern conqueror, Antiochus III., he played a conspicuous part, whilst his cruel subjection of the Celtiberians in Spain (194) earned him a triumph. In his grandson of 'the Censor,' and the last | projects of reform and in his enmities of his name known to history. After he showed a like passion and sincerity. responsible for the prosecution of Scipio Africanus for corruption—during the Carthaginian War he had often reproached the famous general for his luxury—and his incessant cry of 'Delenda est Carthago 'shows how much the prosperity of the rival city Catrine, a tn. in Ayrshire, Scotland, had aroused his hatred. His reforms 21 m. E.S.E. of Mauchline. It manuwere largely in the shape of sump-tuary laws, designed to check the growing extravagance of dress, and banquets. These were carried out celebrated censorship, during his when he also thoroughly revised the senatorial and equestrian lists so as to keep out upstarts and foreigners. Both Cicero and Livy are fond of citing C. as the model of a Roman citizen in the republican days. His personal integrity and rugged simplicity, his stern sense of duty and rigid discipline, his frank hostility towards the new Hellenic culture, and his narrow patriotism became a byword. In his cont and in Ł

family, he showed the violence of his conservatism. His De Re Rustica, a treatise on agriculture, has literary merits and an historic interest, which cause the reader to regret that his magnum opus, entitled Origines, which was a comprehensive history of Rome, should have been lost.

Catoptrics, that part of the science of light or optics which deals with laws of reflection. See Reflecti

LIGHT.

Catorce, a tn. of Mexico, in the state of San Luis Potosi, 120 m. N. of the town of that name. It is noted as a silver and tin mining centre, and

has numerous smelting works. Catostomus, a genus of fishes of the family Cyprinidæ, which are peculiar to the rivers of N. America. They are distinguished from their ally, the carp, by having their lips thick and pendent, no barbels, a long dorsal and

a short anal fin.

plot Cato Street Conspiracy, formed in London in 1820 to murder Lord Castlereagh and the rest of the ministers at a dinner at Lord Harrowby's on Feb. 23, to set fire to London, to seize the Bank and the Mansion House, and proclaim a pro-

called from the place of meeting in salts of phosphorus, but untouched Cato Street, Edgeware Road.

It seems certain that he was largely either side with a breadth of from 20 to 26 ft. and 50 m. in length, which extends from near Galashiels, through Selkirk and Roxburgh, to Peel Fall in the Cheviots. For an account of the various theories about the C., see Blackwood's Magazine, 1888.

factures cotton. Pop. 2458. Cats, Jacob (1577-1660), Dutch poet and humourist, studied law at Leyden, and later won renown as an advocate for his defence of a witch. His attack of tertian fever, brought on by a grave disappointment in love, lasted for two years, but was finally cured by a quack. Part of his life was spent on a farm at Grypskerke in Zeeland. Driven from his farm by the collapse of the dykes, he was for some time stipendiary magistrate at Middelburg and Dort, whilst in 1636 he became Grand Pensionary of Holland, and twelve years later Keeper of the Great of A. A knighthood was one result of embassy to Charles I. of England

1627. The somewhat archaic character of his style and subjects has deterred many a student from reading his poems. Yet in spite of his lack of terseness, 'Father Cats,' who was of terseness, 'Father Cats,' who was by creed an Orangeman and a Calvinist, enjoyed for many years a great vogue. His Houwelyk, 1625. and the Trouwring, a collection of tales about curious marriages, as well

wit and power of shrewd observation. Cat's-eye, a stone so called from its likeness to a cat's eye. It is another variety of chrysoberyll, and is found in Ceylon, China, Brazil, and Malabar. The stone, when cut only but not polished, if the structural arrangement is perfect, produces a narrow and distinct line of light which much resembles that emanating from the interior of the eye of a cat. The colour of the stone varies: it is grey, brown, and black, with yellowish or greenish tints, or sometimes it is the palest apple green or a deep olive colour. The line of light when held in front of the eye The line of should cross the centre of the dome Mansion House, and proclaim a provisional government. The plot was chatoyant line is usually white. The revealed to the police by one of the hardness of the C. is 8.5, and the vity 3.5 to 3.8. The lustre

with iridescent ray-the imperfect, the fracture It is moreover doubly It is soluble with borax or

by acids. There are three varieties of Catrail, known as the Pict's Work; C. Quartz C. is softer and is 7 the name given to an earthwork, consisting of a ditch with a rampart on trous than the C. belonging to the chrysoberyll variety. There is also Secret' and the 'Murder Crocilite C. or Tiger's-eye, which is Bishop of Liège. cut and artificially coloured. It is a

much softer stone and of a silky lustre. Catskill Mountains, a large range of well-wooded mountains belonging to the Appalachian system of North America; they are situated chiefly in Greene County and form one of the most beautiful situations in America. Their sides are very steep, and they attain to a height of nearly 4000 ft. in some places. The chief peaks are some places. Round Top, Peak and Overlook Peak. An hotel has been erected on the lastnamedpeak, and stands at an elevation of 3800 ft. The village of Catskill lies in the state of New York, and is 34 m. distant from Albany. It is the capital of Greene County, and is hilly with irregular roads. A steamboat service runs between Catskill, New York, and

other places.
Cat's-tail Grass, or Timothy Grass,
the popular name of Phleum pratense, a species of Gramineæ which flourishes in all temperate countries but Australia, and affords good fodder. inflorescence has free glumes and two

distinct paleæ.

Cattaro: 1. A strongly fortified Austrian seaport in Dalmatia, at the head of the Gulf of C., 40 m. S.E. of Ragusa. lying between the Montenegrin Mts. and the Adriatic. town, besides being a strongly fortified military station, has a cathedral, a naval school, and gives its name to a see in both Roman and Greek churches. One time the capital of a small independent state, C. in 1420 joined the Venetian republic, but was ceded to Austria in 1814 by the Treaty of Vienna. Twice the town has been almost destroyed by earthquake, in 1563 and 1667. Its transit trade across the Montenegrin frontiers is impeded by heavy tariffs. Pop. (1900) 3021. 2. The Gulf of C., a wide inlet of the Adriatic, length 20 m., and depth 15 to 20 fathoms, consists of three basins connected by narrow straits.

Cattegat, an arm of the North Sea. some 150 m. in length, joining the Skaggerak on the N. and the Baltic on the S., and bounded E. and W. by Sweden and Jutland respectively. Its sandbanks endanger navigation.

Cattermole, George (1800-68), born in a village near Diss in Norfolk. A celebrated English painter, principally in water-colours. He became an associate of the Water-Colour Society in 1822; received a first-class gold medal at the Paris Exhibition of 1855; studied oil painting in later years; illustrated the Waverley Novels and other books. His chief forte was the painting of medieval scenes, and his areas, and it is found in all parts of principal works include 'A Terrible the country. These districts are also

of the

Catti, or Chatti, were an ancient German people who lived in a district round the higher reaches of the Weser, etc., corresponding roughly to the modern Hesse. In the first two centuries A.D. they frequently fought against Rome, and were finally incorporated with the Franks in Clovis' kingdom.

Cattle. The influence of British breeds of C. has been felt in all parts of the world, which in itself is evidence of their value. The Shorthorn is the most cosmopolitan breed in the world, and it is the most commonly distributed breed in these islands. There are many other breeds, each having valuable characteristics, and their value lies in their inherent good features and the genius of the men who developed them from the unimproved condition in which they were found subsequently to the first great improvement which was wrought on the Longhorn breed by Bakewell in the latter half of the 18th century. There is little use in discussing breeds previously to this period, for, on the whole, the origin of British breeds from the earliest periods is still a subject of debate, therefore is not specially helpful to the modern breeder. What did occur was that gradually, in accordance with soil and climate, local breeds-some widely spreadhad established themselves, and where the locality, district, or area was very similar over a sufficiently extensive country, animals took to themselves certain indigenous features characteristics for them to be established as breeds recognised by certain peculiarities. There were, however, many parts of the country where the soil was so diversified that no special type was found, because the varying nature of soil and climate did not allow them to be stamped with any consistent features. Speaking broadly it is yet found that where local animals were carefully improved, and became one of the recognised breeds, it is well to regard them as the foundation on which breeds kept in those localities should be built. In the districts where the soil varies frequently, and consistency is met with in only small areas, there is no breed which is actually identified with them, consequently outside breeds, having

well just to consider what is meant by 'improved' C. Unimproved C., as a rule, fatten and mature slowly, and yield a moderate supply of milk. The object of the breed maker or breed improver is to select animals which conduce to one or both of these pur-poses. To a great extent these two purposes are antagonistic, and where the development of beef with its necessary accompaniment of being capable of attaining early maturity—that is, ripened beef at an early age—the milking properties are usually de-teriorated; whilst with high milking properties it is only the exceptional animal which possesses meat-making capabilities in a marked degree. The fusing of these two properties, especially in respect to the Shorthorn, is the aim of certain breeders at the present time, and they have met with sufficient success to go farther; but it is unreasonable to expect that cows giving a large quantity of milk, and giving a large quantity of milk, and taxing heavily, and developing ab-normally, certain organs, will keep pace with those animals where the whole of the energies of the animal are directed to the specific object of the rapid production of meat. Nevertheless it is a fashionable pursuit at the present time to aim at the dualpurpose Shorthorn, and for some time is likely to be a very profitable one for those who can achieve the best results. It may be noted here that some Continental breeds have superior milking properties to the generality of British breeds, but not so extravagantly as some would have it believed. British breeds have always shown an aptitude to produce meat, and whilst the human population of these islands was comparatively small, and beef rather than milk was needed, British breeders were right in paying most attention to beef; and this country, and practically the whole world, have enormously benefited thereby. The increase in population and in milk consumption have turned the modern farmer towards increasing the milk-ing properties. In the division of the breeds of C. the meat and milk proclivities have to be borne in mind: and the common division emphasises and the common division emphasises the fact that, in the main, the breeds as they at present stand are essentially either meat producers or milk producers, or are more or less indifferent, as compared with the best, in lett.

much associated with the keeping of , Red) and the Red polls as dualcross-breeds. C. are kept with two purpose breeds; though, whilst recogmain objects, the production of beel nising their small size, Dexters are and of milk, or both, and a very quite as much entitled to the claims common division of the breeds is are Red Polls. The animals of heavy made in accordance with these. It is build, emphasising the features of are ned Polis. The animais of heavy build, emphasising the features of meat producers, and when possessing the faculty of producing meat quickly are rarely of good milking capabilities, are the Hercford, Aberdeen Angus, Devon, Sussex, Longhorns, Welsh C., Galloways, and West Highlanders. The light breeds with recognized milking recognized milking recognized Highlanders. The light breeds with recognised milking properties yielding exceptional quantities of milk in ratio with their weight, are the Jerseys, Guernseys, Ayrshires, and Kerries. Among minor breeds exercising little influence outside the district to which they are indigenous are Zetland or Sheiland C. (showing much in common in respect to outward form with the Dexter); common High-land C.; an occasional breed of wild white C. of no economic importance; Highland C. other than West High-landers, and inferior to them; the native Brindle breed of Iceland, very inferior, is practically bred out: a few local unselected animals, generally mongrel in type, such as the New Forest, Sheeted Somerset, etc., which are not encouraging to the selector to take in hand. Whilst there are the pure breeds mentioned, pure breeds are in relatively small proportion to the cross-breeds, or the animals of which the pedigree cannot be traced, though classed as belonging to the breeds to which they most approach. Animals, however, may be pure bred, although the pedigree may not have been kept, because, provided the dam is the offspring of five generations of dams sired by a pedigreed bull, they are entitled to be called pure bred. It is the keeping of a record of the breeding from animals entered in a herd book that establishes an animal as a pedigree animal; the value attaching to a pedigreed animal lies in the fact that where a pedigree is kept it is assumed that there will be more care in the selection of the sires; but this is an assumption, admittedly commonly correct, although there are some unpedigreed C. really better bred than some which are pedigreed. A pedigree is valuable when it records skilled mating and selection over a long period, but if it records the results of unskilled mating it may be harmful; for if bad features are perpetuated for a long series of generations they become established to the prejudice of the offspring. It has been said that the Shorthorn is the most cosmopolitan breed. This in both respects. There are few who results from the several breeds in-would include more than the Short-cluding some of Continental source, horn (either Coates or the Lincoln which went to form the Durham

breed, which subsequently became ; known as the Shorthorn. The Shorthorn is found in all parts of the country; and in most cases does well, in many far better than any other breed; in fact, it may be taken as a fair axiom that when local experience does not direct to any specific breed, it is safest to take up the Shorthorn. But there are districts where it is better to take up other breeds. As a grazing beast the Shorthorn is seen at its best on rich pastures, it is really a very highly bred animal, and, if pasturage is really good, is sure to do well; but it is not the best breed on many poor pastures. For instance, a Shorthorn will do well on rich Sussex pastures in summer when the pasturage is good, but a native Sussex beast will keep in good condition on the same pasture in autumn when it has lost its best feeding powers, whilst the Shorthorn will go back quickly in condition. Plenty of other illustrations where other breeds are kept in their indigenous districts could be taken showing their advantage over the Shorthorn, except on the best pasturage at the best season. Moreover, a Hereford on the good pastures on the Red Sandstone will beat a Shorthorn in the point of profitable feeding. It is difficult to draw hard and fast conclusions, because experience produces conflicting evidence; but except on the richest pastures on heavy land the Shorthorn is not so well adapted to very heavy land as are the native breeds of middle horns, as illustrated by the Sussex breed in Sussex, the Devon in Devon, the Hereford in Hereford, and on the Red Sandstone generally. Climatic conditions also have their influence, and the shortcoated Shorthorn does not thrive so well under the same exposure as that where the long-coated West Highlander flourishes. Nor is the Shorthorn generally so well suited to the high and wet hills where local breeds have become acclimatised and thrive well. It is evident, therefore, that where the animals have to spend a considerable portion of the year on pasturage, it is not correct to say that any one breed is universally the best; though it can safely be said that the Shorthorn is the best over the greatest The Hereford, the Welsh, the Sussex, and the West Highlanders can be taken as examples of breeds which thrive well on rough grazing in winter time, even outside their indigenous districts. But the grazing value of a breed does not altogether settle its profitableness to the farmer; the yarding capabilities have to be regarded; naturally, this bears more where the grazing season is short and

most felt in the bigger arable districts where winter grazing is almost unattainable, but where there are many swedes or turnips to feed and much straw to browse. Here the Shorthorn makes its special value felt, as does the Polled Angus, another splendid beefer. The Hereford, Devon, Sussex, Galloway, Red Poll, and Welsh (both the N. and S. Wales or Anglesey and Castle Martins) yard well. The grazing counties are the rearing homes of the greater number of calves, though, of course, dairying districts are the chief breeding grounds; as dairying is largely carried out in pasture districts many are raised in them; at the same time large numbers of calves are taken from their mothers very soon after birth, and are sent long distances to be weaned. The calves from the great milking districts of the Vale of Aylesbury, Somerset, Cumberland, and other places are in great demand among raisers of heilers in other parts because of the good type of cow kept Consequently, the animals kept throughout the country are by no means the produce of the district in which they are found. It is much to be regretted that the dairyman of the type which keeps animals near to towns, and who, having little accom-modation for off lying cows, does not pay more attention to breeding good animals. As it is, knowing that the calves will not be raised by him, and assuming he will get little more for a well-bred calf than a good one, he too often uses a very interior bull. The policy is a bad one, as those who maintain a good class of calf can always be assured of profit from a good one; moreover, he limits the supply of good calves, consequently finds greater difficulty in buying good cows, and has to pay more for them than he otherwise would, and, of course, the steer calves are inferior for meat production. This negligent breeding largely counteracts the good effect wrought by those who devote themselves to the further improve-ment of breeds. Farmers raising their own stock as a rule are very careful in their breeding; but the dairyman and small holder, as a rule, have need to alter their methods. With all the good stock there is in the country, and with high class bulls of every breed, now purchasable for very little more than inferior ones, there is no economy and great harm done by using other than well-bred ones. Many inferior calves are fattened for veal, and no small number of the worst go at a nominal price to the sausage maker. Male calves from the lighter milking breeds have little value for the beef producer, as they the yarding season is long; and this is do not give anything like the return

Cattle

quantity of food expended on animals of strictly beef-making breeds; and this to some extent detracts from the keeping of this class of cow. The cow carries her young nine months, and to arrange

Cattle

about May wo months will work

back into the winter months by the time she is in full profit. A cow is regarded as at full profit at her third calf, and if she is bred from regularly the next four calves go further back, so that the period when she gives her fullest yield will be at the time of year when milk is most valuable. A considerable difference of opinion exists as to the best age at which a cow due to the different purpose ideals individuals hold as beir aimed at; but ordinarily the framed milking breeds which little value comparatively who

thinking that from two years to two keepers great fear is that his cows there are advocates among the keepers of heavier breeds for three years as being best, though from two and a quarter to two and three quarter years cover most. Where animals are bred from when young it is necessary to keep them better than when they are older and have less growth to make. Heifers need to be strong when they breed, and should not be allowed time before the nine months is up, as to get into poor condition. Cows after there is not absolute certainty of the drying off, on off-lying, or down calvers, are generally kept inexpensively, but if allowed to get low in condition commence their milking with a poor yield, requiring very liberal feeding to get them into full milk. Some cows dry off very early, and have a long off-lying period, during the first portion of which they

as illness, prematurely milk flow, are rarely on, though some of th on, though some of th bred beer-making cow able for that purpose, often milk but clean sheet, and the navel be dressed

a short time. Dairymen who feed highly during milking with the view of getting a full flow, and then send-ing out the cows fat to the butcher, practically always demand cows to be in good flesh when they purchase. With the strictly milking breeds the animals are not often fattened out animals are not often fattened out continue dressing longer, in case any from the cow byre, and the same full raw place may have revealed itself, flesh is not demanded in a newly calved cow. As pregnancy advances, the young calf or fœtus can be detected by pressing the flank on the tright side, when a hard lump, which of the calf's life is very heavy, and

that can be obtained from the same is not present in empty cows, can be quantity of food expended on animals felt. It is unwise to do this too frequently, as there is risk that through excitement the feetus may be expelled. If a cow well advanced is watched when it drinks cold water, movement of the calf can generally be noticed. As the time for calving comes near, the udder and teats enlarge and become firm. The liquid from the teats becomes less watery and more milky, whilst more nearly to the time the root of the tail appears to stand higher, though this is not the case, but the bones at the base of the tail fall away through the loosening of the pelvic ligaments, thus making an easier passage for the calf. The appearance of the water bladder indicates immediate calving; generally should produce her first calf; this is the cow needs no assistance, and it toosoon. After

catly distressed whisky or beer ed. The coware bred from when youngest, many should be administered. and a quarter years best; whereas may abort or present their calves there are advocates among the keepers when immature; this often takes a contagious form causing severe loss over years, and when this occurs those who are not acquainted with the necessary treatment should at once consult a veterinary surgeon, and carry out his instructions with utmost care. Cows about to caive should be watched carefully for some

nash, or water

meal, should be

diseases through contact with germs, which are liable to accumulate about buildings where cows frequently calve and which often attack through the may be kept on moderate diet, but navel of newly born calves. This is cows which milk but a short period, not always convenient at night, and not always convenient at night, and except from some special cause, such roomy calving boxes should be availing taken to keep the

s well disinfected.

with antiseptic, such as carbolic oil, After the navel dilute lysol, etc. hardens there is only a small danger of disease, though if there has been much scour, navel ill or joint, or other contagious disease among weaned on the premises, it is wise to continue dressing longer, in case any

sometimes prohibitive unless preventive means are taken, as by dressing the navel. The cull should be allowed to suckle the cow as soon as it can stand, and weakly calves should have the milk squire. Amateurs who practice the injection method should be fully imthe mouth, for

them; the first or beistings is a special provision of nature suited to the digestion of the infant calf, and is very rich; moreover, it is held to set the digestive channel into action, and certainly calves which have the colostrum are less liable to constipation, than when fed on milk from staler cows. The cow will instinctively lick a newly-born calf whilst it is in a slimy condition, and it is well it should as it acts as a forr.

the vitality o' accepted as Cows sometimes become very excited on first seeing the calf, and maternal solicitude and pleasure may be shown in the unpleasant form of tossing or kneeling on it, to which it quickly succumbs. Caution is most needed in the case of cows which have been kept in town dairies, and which have never been allowed to see their offspring. When taken to a farm, and the motherly instinct is gratified, they sometimes go practically mad with joy, and may attack both the call and attendants. It is, therefore, well to be acquainted with the history of the animal. Until recent years there was great loss of cows which 'dropped 'after calving; that is, had milk fever or parturient apoplexy. Injections of iodide of potassium into the teats inaugurated successful treatment by injection, but other substances such as lysol, chriosol, etc., have been successfully used, and now ordinary atmospheric air or pure oxygen gas are found to be efficacious with or without a drug. When instituting this method of treatment it is advisable to do it under veterinary instruction, especially as after treat-ment must be carefully observed; but in view of the great success achieved, and the considerable value of the animal, there is no doubt that this form of treatment should be followed, and older and very doubtful methods not be used. The great advance in veterinary knowledge should greatly encourage all keepers of live stock to employ veterinary surgeons freely. Old treatments, much relied upon, in many cases appear absolutely ridiculous when the light of modern knowledge is thrown upon them. Cows sometimes 'drop' from other causes than parturient apoplexy, and simple remedies and attention will get them on their legs again, and many relatively ignorant cow doctors have

gained reputations as being able to cure milk fever on the strength of their success in these cases; but it is courting loss to rely on such treatment. Amateurs who practice the injection method should be fully impressed with the need to thoroughly disinfect everything associated with the process; failure to do this has caused the loss of life to many coves. When calves are brought up by suckling their mothers, rearing is comparatively simple. It is expected of a cow that she will maintain her calf and give a considerable quantity of milk besides; in fact it is a poor milker which will not rear two at once. Many farmers make a cow rear five during the course of a milking: two during the first three months, two during the next three, and one subsequently. A calf at three months can

nen, mough it skim or separated milk is available it will be greatly to the advantage of the calf. The rearing of the calf for three months on new milk is expensive. except when milk is very cheap, and as winter-born calves are favoured because they will be old enough to take advantage of the young grass in early summer, many rearers do without new milk, or give it only during the first week or two, continuing the rearing on skim milk, to which is added a cheap oil and suitable meals, or one of the specially prepared calf foods or milk substitutes as they are called. Separated milk, owing to the extraction of the oils or butter fats in the form of cream, is not a complete food. and the fat must be made good either in the form of oil or some easily digested starchy food. The stances usually recommended substitutes are hay tea, linseed tea, Indian corn, wheat, barley, oats, peas, beans, sugar, cod liver oil, and ground linseed. At less than 5s. per gallon, cod liver oil is a cheap substitute for the cream extracted. The Irish Department of Agriculture, as a result of their trials, recommend two parts by weight of Indian meal (ground very fine) and one pa: there is no

seed cake meal and linseed should form the chief basis of the gruel, and a little sago is useful to prevent scour. Many call rearers make a mistake in giving hay too early; it is best withheld until the sixth week; but under

digestion is overtaxed. Whatever food

is given to calves, good results are not; high pressure from birth to butcher. obtained unless the feeding is regular obtained unless the feeding is regular and judicious. Some men have a thorough instinct for rearing, they get few losses, and always keep a good bloom on the calf; whereas others, with better food, less careful as to times of feeding, quantities, cleanliness, and observations as to the health of the arrival of all times. health of the animal at all times, meet with great losses, and rarely make weaning pay. Calves at first should be fed at least three times a day, and cleanliness must be observed in every way. Though rather more costly than simple mixtures made on the farm, unless the feeder can be relied upon to make his mixtures properly, some of the calf foods sold as proprietory articles are safer, and it is wiser to use them in such cases. A large number of calves die from being too generously fed when they have been unduly fasted: this often occurs when freshly calved calves are exposed in markets, or are sent long journeys to be reared. In such cases, allowing them as much milk as they will take is a form of killing by kindness. A pint of slightly warmed milk at first, to raise the vitality, followed at intervals with increasing quantities, will put the calf into a condition which will enable it to get on to full food in two or three days without hurt, Cowmen who open the stomachs after death notice the curdled condition of the milk, and sapiently state that the milk curdled, as though that were the cause; but

se in the mise that gastritis, brought

ways the whether it comes from chill, injudicious feeding, over exercise, fright, or from contagion entering most generally through the navel, to which attention has been drawn. A good scour mix-ture should always be at hand, and nothing is better than one composed as follows: Compound tincture of morphia and chloroform, 4 dr.; liquid bismuth, 4 dr.; oil of cloves, 1 dr.; cooled linseed tea, 7 oz.; giving a tablespoonful every eight hours until better.

The treatment of the calf after weaning, and when it is independent of the cow and hand-feeding, may differ considerably, according to the object in view. The practice of allowing the calf to suckle until it is a year old, as is done with some of the highly bred animals intended for show work, is not possible with ordinary stock to be sold as beef; though those animals

Their food is necessarily rich and concentrated; in fact, they are in reality trained to consume large quantities. Such quantities as are given to these animals at a year old would be impossible to an ordinary yearling, and if they did eat it, their digestion would quickly break down. Winter calves do well at grass during the early summer, and in mild climates, where there is no fear of the husk worm, they may remain out until October, but in cooler districts, where the land is wet and liable to husk, it is found advisable to take them in by mid-August or September, or as soon as fogs keep the grass wet. Many rearers prefer to keep the calves in through-out summer, but provided there is shelter from sun there is no objection to even young calves to be out in June and July. When calves from six months upwards come into the yards they naturally receive winter fare of hay, roots, and finely ground cake, though if they receive chaffed hay or oat straw, a small quantity of meal can be given to encourage their eating it. From 2 lbs. to 3 lbs. of cake a day, with such roots as they will eat, and hay ad lib, make a good ration. As the wintering proceeds this may be increased, according as the farmer is satisfied with the progress they make. In the second year's grazing it is not necessary to give any extra food during summer, though it is not unprofitable to give a small quantity of cake, especially if it is desired to get the stock out early. As the grasses get older and less nutritious, a little cake is needed to keep up the condition, though this is by no means always given, as most farmers prefer to let the animals keep themselves on the pastures, and defer giving cake until they are in the yards, with the yiew of improving the quality of the yard manure. There is a great deal of difference in the transfer of the grant deal of the state of the st of difference in the method of wintering animals in the second year, because in grass districts in mild climates the animals are kept out much longer than those in the colder arable dis-tricts, where the position of the food supply compels them to go into the yards earlier. In some districts young stock receiving a little cake on grass, with a small quantity of hay in severe weather, if provided with a sheltering hovel to lie under in wet or bad weather, will thrive well up to weather, will January. In other districts young stock is rarely seen on the grass after the early part of October. In the second winter, when run as stores, the animals often get nothing but the which are brought to considerable browsing of straw with roots, and weights at a year or a few months 3 lbs. or 4 lbs. of cake, and will do older necessarily require to be fed at well on it. If required to be fattened

they are rather more liberally fed at first, and are tied up in the fattening sheds on fattening rations, generally getting chaffed or chopped straw, hay, pulped roots, and, according to size and the stage of fattening, from 6 lb. to 12 lbs. of cake, or partly cake and an equivalent of the remainder in the form of meal from barley oats or beans; or such other feeding stuffs as the market prices favour. Some pastures will fatten out two to three year old C. during summer without any help, and a pasture reaches the high water mark of grazing if it will fatten out a big beast to the acre without aid. It is customary to put those most forward in condition on to the richest grazings, so that they will come on to the market as quickly as possible; because early summer meat generally sells well, as there is often a gap between the time when the yarded beasts are finished and before the grazed beasts are ready; moreover yarded beast, do not set so well after killing when the weather is hot. The second grade of C. will be fattened out after July, and up to the time when those to be fattened in the yards in winter are taken in. The failing powers of the grass will generally occasion the need for help as the season advances. The strong C. going into the yards are generally liberally fed, so that they may be brought to good weights and fattened out before the next spring. Few animals, except those very lightly fed throughout their lives, are kept up to three years of age in these days, as big beef is not in special demand, and under the care and selection made in their breeding, keeps his animals as stores in good a quick maturity is found more progoing condition, in the other he feeds fitable. The winter feeding does not them at high pressure, giving much materially differ from that of the concentrated food throughout their previous year, except that they lives. There can be many modificarequire more, and will consume, tions between these limits, and it is according to size, 50 lbs. to 80 lbs. of for the farmer to decide, in according to size, 50 lbs. to 80 lbs. of for the farmer to decide, in according roots per day, and in some cases as ance with circumstances, what course much as a hundredweight are satishe will pursue. Often the relative factorily given. The hay allowance value of store stock and fat stock will may run to a stone per day, and chaffed straw to about the same weight or more: the cake allowance may start at 6 lbs., and be increased effect on the profit of feeding. In some places animals are bought on weighed before being offered for sale, quantities of rich food C. may be educated to eat, provided the increase is very gradually made; but the percentage utilised by the animal does not increase in sufficient ratio to make it profitable. It is certainly a mistake to increase the quantity of a rich cake, such as linseed, beyond 8 lbs. Such increase as is made should

out before the next summer's grazing, be in the starchy or carbonaceous foods, otherwise there will be great liability to scour, which is nature's method of relieving the system from over feeding. Linseed cake is highly nitrogenous, and if too much nitrogen gets into the blood it is practically poisoned through being over azotised, and animals are liable to apoplexy. Fortunately the system generally revolts and prevents the digestion of more than is good for the beast by passing it rapidly through the intestines.

In all matters of C. keeping the farmer has to be guided by his purpose and the nature of the food available. For this reason hard and fast lines cannot be laid down to fit all. as a general rule it may be accepted that the hay, straw, and roots grown on the farm are raw material suitable to be converted into beef and manure. Where the general system of the farm is an exhaustive one, that is, the crops are freely sold off, a considerable amount of feeding stuffs, the residue from which will act restoratively as manure, are needed to maintain the the fertility of the farm. Where a less exhaustive method of cropping is adopted, a smaller quantity of re-storative manure is required; in fact a farm can maintain its fertility with little help. The farmer therefore considers whether it will pay him best to maintain his animals mainly on the raw material the farm provides, keeping them to an older age and then fattening them out, with a short period of healthy feeding, or whether he will rely largely on purchased concentrated foods. In the one case he

to short limbs of the boy who will best known species in Britain. make a short man. But beyond that, the skin and hair as results of breeding and selection indicate thriving or lack of power to thrive; in the thrifty animal the skin is loose on the ribs when gripped by the fingers, readily lifting; moreover, when the lifted portion is rubbed between the tips of the thumb and finger it has a soft unctuous feel. A skin of this sort, as a rule, carries a nice soft hair, plentiful and not harsh. A good thriving animal has a big heart girth, that is the measurement round the body behind the shoulders is big, the ribs are well sprung, the hinder quarter from the shoulder back to the tail should be full, as should be the round and buttocks, that is the parts below the tail to the hocks. The top line the tail to the hocks. and the belly line should be parallel, and from the setting on of the neck the fore part of the carcase should be well square with the hind quarter, giving the impression of a long deep parallelogram. The fore part of the animal carries the least valuable meat, but beasts poorly developed in front rarely make good beefers. No matter whether from the side, front, or rear, the beast should meet you well. An animal that does not satisfy one in all; respects, that is, that appears to have some defect, practically always has a deficiency, although perhaps the observer may not have experience enough to recognise wherein the fault making animal, as a matter of fact, contains fine descriptive passages, the strictly milking breeds are light Catulus, Gaius Lutatius, a Rom hind, gradually deepening moin from to rear, thus providing ample room to rear, thus providing ample room to rear, thus providing ample room of the for digestion and for milk making: fleet sent by Hanno, in the battle of suggesting a wedge in shape. Looked the Ægates Islands, and C. unwill-toom helpind over the back, the ingly shared the honours of his suggesting a wedge in shape. Looked the Egates Islands, and C. unwinter the best in the first shape. These two are described as giving the double wedge which a milking cow should possess. But a man to be a thorough judge of C. must be frequently among them, handling, regarding points, and comparing the sale price in markets.

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References. -- Low's Animals in Domestication, Culley's Book of Cattle, Domestication. Culler's Book of Cattle, Catulus, Quintus Lutatius (d. 61 Sinclair's Cattle Cyclopedia of Agri-1B.C.), son of the preceding, shared his culture. Publications by the several father's hatred of Marius. He was Herd-book Societies. Wallace's Lite made consul with Marcus Aurelius

appearance of growth that a boy who of its members are cultivated in Eng-will make a big man shows, as opposed—lish greenhouses. C. labida is the

Cattolica, a tn. in the prov. of Girgenti, Sicily, 14 m. N.W. of Girgenti. It has sulphur works and salt mines. Pop. 8000.

Catullus, Caius Valerius (87-54!

B.c.), a Roman lyric poet, was admitted as a youth to the best society at Rome, which at that time included Cicero, Cornelius Nepos, Cinna the poet, and Hortensius. In 56 B.c., on his way home from Bithyuia, he visited his brother's grave near Troy—an event to which he alludes in his poems. He played no part in public life, but passed his time between his villas on the Lake of Como and at Tibur (Tivoli). As the reader would gather from many of his verses, which seem struck out in a white heat of party furor, he was filled with a violent dislike of Cæsar, who, nevertheless, showed the poet every courtesy. The Lesbia who inspired most of his splendid passionate love poetry is thought to have been the sister of the notorious P. Clodius Pulcher. As a poet, C., 116 of whose poems are still extant, is remarkable for his mastery of the Latin language, which he endows with the sweetness, flexibility. and melody of Greek: for his beautiful imitations of many Greek metres; for his sympathetic expression of every phase of feeling, and for his consummate art. A paraphrase of Calli-machus' The Lock of Berenice, and the enough to recognise wherein the fault weirdly-imaginative Attis, are two of lies. Milking stock need not have the his finest elecies. His epic narrative heavy fore quarters of the beef of the marriage of Peleus and Thetis

the strictly milking breeds are light Catulus, Galus Lutatius, a Roman in the fore quarters and full in the general in the First Punic War, made hind, gradually deepening from front consul 242 B.C. The prætor Publius to rear, thus providing ample room Valerius Falto totally destroyed a

Stock of Great Britain.

Cattleya, a genus of Archidacea, the species of which grow wild in tropical America. It is noted for the Casar, but he was nevertheless an large and beautiful flowers and some ardent patriot.

Catumbella, a river of W. Africa, rising in the N. of Benguela and entering the Atlantic 14 m. N.E. of the village of Benguela. The whole district is unhealthy, but the village of Catumbella, at the mouth of the river, being less so than Benguela, is rapidly superseding the latter.

Caub, or Kaub, a tn. in the Prussian prov. of Hesse-Nassau, on the r. b. of the Rhine, 30 m. W.N.W. of Wiesbaden by rail. It has slate quarries. Blücher crossed the Rhine pear C. in

January 1814. Pop. 2279.

Cauca, a riv. of Colombia, S. America. rising in the Andes and flowing 600 m. N. to join the Magdalena near Tacaloa. Its valley is fertile, healthy, and very beautiful, and is rich in minerals and forest trees.

Caucalis, a genus of Umbelliferæ, consists of herbs with multiplied leaves and white flowers, and is found in S. Africa and northern hemisphere. In Britain the species are called burparsley or hedge-parsley, and both C. dancoides and C. latifolia are found

on chalky soils in corn-fields

Caucasus is the name of the great mountain range extending for some 750 m. from the peninsula of Taman on the Black Sea to that of Apsheron on the Caspian. The breadth at the widest is some 150 m. From the luxuriant plateau of grasses and forests to the N., the mountains rise in a succession of terraces, the parallel chains being divided by high plains cut up by narrow fissures of great depth. The southern slopes towards Georgia present magnificent seenery; towards Kur they are much steeper, and often sheer precipices. From the central ridge, where the prepetual snow-line is 10,500 ft. high, six peaks are thrown up with an elevation of over 16,000 ft. Mt. Elburteaches an altitude of 18,540 ft., and

In spite of the absence of volcances, there are many signs of volcanic action in past ages. To E. and W. are thermal springs. Most of the streams of the C. unite with one of the four chief rivers, the Kuban and the Rion, flowing to the Black Sea, and the Terek and the Kur, flowing to the Caspian. The Kur and Rion are S. the other two N. of the mountains. Of the carnivorous animals the most important are wolves, lynxes, panthers, and jackals, whilst wild boars and aurochs (Bos urus) are still found. Forests cover 56 per cent. of the C. area. The flora is characterised by the variety of aquatic plants, and the pre-

ponderance of pines. There are many acres, especially southwards, under vine cultivation, the annual yield measured in wine being 30,000,000 gallons. Large crops of rye and wheat in Northern Caucasia and of maize. rice, and tobacco in Transcaucasia are harvested each year. Mulberry trees for the silk industry, melons, apricots, peaches, and nuts are also grown. Ten million tons of crude mineral oil (naphtha) is the annual output from the wells of Baku, but copper ore, manganese, salt, and a poor quality of coal are also mined. The chief exports, whose annual value is £10,000,000, are thus petroleum, silk, corn, and manganese. Through the deep fissure of Dariel Gorge the Russians with great difficulty have constructed a military road, which rises to 8000 ft. above sea-level. The main railway from Russia has its terminus in Vladikav-Russia has as termines in Figura Vision Ration Whilst another line connects Baku, via Tiflis, with Poti and Batoum. N. and S. of the central chain of C. are the provinces of Ciscaucasia and Transcaucasia. Vladikavkaz and Tiflis, the chief Lowns of the two provinces. the two provinces, are connected by the military road. In 1897 the census gave the rapidly increasing pop. of Caucasia as 9,291,090. Ethnologically it consists of very various races. Though certain anthropologists employ the term Caucasian to indicate the white, as opposed to the yellow or Mongolian peoples of Caucasia, they recognise that the groups of white men are separated alike by distinctions of race and language. More than half the pop. is composed of foreigners, the chief of whom are Tartars (Kalmuks, Turkomans, etc.), Semitic peoples (Jews and Arabs), Iranians (Kurds, Persians, and Arminians), and Europeans (Greeks, Germans, and Slavs). The Caucasians fall into four groups, in each of which considerable affinity prevails. They are: I. The Southern or Eartveli division including Georgians, Imeritians, Mingrelians, Laz, and Gurians. 2. The Eastern division of Tchetchens and Lesghians. 3. The Ossetes of Central Caucasia, an Aryan race who call themselves Irun. 4. The Western division, comprising the Kabards, Abkasians, and the Circassian or Tcherkess race. In the Kartveli and Eastern stocks combined there are five times as many people as in the remaining two groups. All the languages are harsh. Many are absolutely peculiar to the region, and their origin is still a moot point. Thus some ethnologists connect the Georgians with the biblical Hittites; others see in their tongue Aryan or Turkoman affinities. As regards

Tartars, and Iranians are Mussulmans: the Armenians are Christians of the Gregorian, the Russians and Georgians of the Orthodox Greek Church. A few belong to Nonconformist denominations. Generally speaking, the Caucasians are hospitable, superstitious, and revengeful. Their respect for property is still very small. Placed like a buffer between Europe and Asia, they have been obliged all through history to fight hard for their independence. This was at last broken in 1859 by the capture of the Lesghian leader and prophet, Shamyl. In 1870 Russia finally succeeded in establishing her rule throughout Caucasia. Yet the inhabitants, in spite of the Russian governments, have managed to retain their tribal customs and social organisation.

Cauchy

Cauchy. Augustin Louis. Baron (1789-1857), a famous French mathematician, born at Paris. Received in-struction first from his father, and was afterwards educated at the Ecole des Ponts et Chaussées (1807). Began his career as an engineer, but took up the study of mathematics soon afterwards, and was appointed to the chair of mathematical physics at the university of Turin (1831). Was loyal to the deposed king, Charles X., who made him tutor to his grandson (1833), and then created him baron. C. travelled about with his young pupil, the Duke of Bordeaux, and returned in 1838, finally accepting a post at the Ecole Polytechnique, He wrote many articles on mathematics and physics. C. is renowned for his memoir on wave-propagation, for which he received the Grand Prix of the Institute in 1816.

Caucus is a word whose derivation is still a moot point. About 1725 it appeared in Boston as the name of a political club. In America it is still restricted to a meeting of party managers who choose the candidates to be proposed at the forthcoming election or to select delegates for a nominating convention. In England the term is applied in a derogatory sense to such a rigorous system of party organisation as Mr. Joseph Chamberlain introduced at the foundation of the Birmingham Liberal Association in 1878, when it became almost a principle that voters must

vote with their party.
Cauda-Galli Grit, a term applied in N. American geology to the lowest subdivision of the Devonian system. The name (literally 'cock's tail ') is derived from a common fossil of this name, with a feathery form, and sup-posed to be a seaweed. See Corni-FEROUS PERIOD.

Caudan, com., dept. of Morbihan.

religion in Caucasia, the Caucasians, | France, 5 m. N. by E. of Lorient. It has manufs. of bricks and tiles. Pop. 9650.

Caudata, or Urodela, a applied to an order of An name Amphibia which has for its distinguishing characteristics that the species are scaleless, have a well-developed tail which persists throughout life, and usually two pairs of limbs. There are about 100 species, and they occur all over the temperate north hemisphere. Newts, salamanders, and mud-eels are representative of the order.

Caudebec, the name of two places the dept. of Seine-Inférieure, France. C.-en-Caux, on the Seine, is famous for its 15th-century church; pop. (1906) 2141. C. - les - Elbeuf

manufactures cloth; pop. 9700.
Cauderan, a suburb of Bordeaux,
France; has chemical and chocolate

France; has chemical and chocolate manufactures. Pop. 11,500.
Caudine Forks (Furculæ Caudinæ), a pass in ancient Samnium, near the town of Caudium, formed by two narrow wooded gorges, between which lay a plain, grassy and well watered, but entirely enclosed by mountains (Livy, ix.). Here the Romans suffered a crushing defeat by the Sampites in the Second Sampite the Samnites in the Second Samnite War (321 B.C.).

Caudium, an ancient tn. in Samnium, Italy, on the road from Beneventum to Capua, later the Appian Way. It was probably once of great importance as the capital of the Caudini, but at the period of its first men-tion in history, at the time of the Samnite wars, was very small and unimportant.

Caudry, a tn., 8 m. S.E. of Cambrai in the dept of Nord, France; has breweries and distilleries and manufactures textiles. Pop. 11,000.

Caul (from Old Eng. calle, a cap), a close-fitting cap of network worn by women in the 15th and 16th centuries; hence a portion of the amnion or thin membrane covering the fœtus which sometimes remains round the head of a child after birth. Many superstitions are connected with this retention of the C. To be born with a C. (Byron was an example) was considered lucky, and still is in out-of-the-way places. It was considered a protection against drowning either to the original owner or to any future pur-chaser. A C. used to fetch large sums, from £10 to £30 sometimes, among scafaring men.

Caulaincourt. Armand de (1772-1827), a French general, who served under Napoleon. He suffered the vicissitudes of fortune in his earlier career, for he was degraded from the rank of captain in the army and had to serve as a private. He was afterwards reinstated through the interarrest of the Duc d'Enghien, but he stoutly denied it. He tried to dis-suade Napoleon from embarking on the Russian war; he accompanied him to Poland, but was recalled to Paris. He took an active part in diplomatic service during Napoleon's régime, and was appointed Minister of Foreign Affairs, but retired from service after the second restoration.

Caulerpites, a fossil genus of siphoneus green alga which is scattered through nearly all the marine formations. Recent species of Caulerpa have been found in warm southern climates and in the Mediterranean.

Caulfield, tn. in the co. of Bourke, Victoria, Australia, 6 m. S.E. of Melbourne by rail. Pop. 10,000.

Cauliflower, a variety of Brassica oleracea, or cabbage, and is known botanically as Botrytis cauliflora. Like the broccoli, Botrutis aspara-goides, it is formed of a fleshy inflorescence modified into a flattened hea it differs froi hiter and ave been less imported from Cyprus in the 16th century, but it is now naturalised in Britain, growing in a rich soil under more careful conditions than cabbage. When the head begins to show, the large surrounding leaves are drawn up and tied around it to make it of a very white appearance. There are several varieties of C., but they differ neg-ligibly in quality, early dwarf Erfurt being about the best.

Caulking, in wood shipbuilding, the process of driving 'oakum,' or un-twisted rope, into the seams of the outside and deck planks of a ship, and finally coating the oakum-filled seam with tar or resin, in order to render the joints of the planking

watertight.

Caulonia, a modern vil. in Calabria, Italy, 45 m. N.E. of Reggio on or near the site of the ancient C. or Aulonia, a colony of the Acheans. The exact site is unknown and depends upon the identification of the R. Sagras, N. of which, according to Strabo and which, according to Strabo and Pliny, was C. Caulopteris, the name applied to

the fossil stems of some tree-ferns which bear spiral markings like those of the leaf-scars of recent species. They occur in British coal formations, and C. anglica is a common species.

Caunt, Benjamin (c. 1815-61), an

English pugilist of Hucknall-Torkard, Nottinghamshire, son of a tenant of Lord Byron. In 1835 he was defeated by 'Bendigo' (W. Thompson). In 1837 he attracted attention as a fighter by defeating W. Butler. His style was never very scientific, but of many periodicals and newspapers.

vention of Lazare Hoche. C. was he was resolute, powerful, and couraccused of being instrumental in the ageous; over 6 ft. in height; 14 st. arrest of the Duc d'Enghien, but he 7 lbs. in weight. He became champion of England in 1838, after beating Bendigo in seventy-five rounds. 1843 he became proprietor of the Coach and Horses' public-house. St. Martin's Lane, London. See Fistiana, 1868; Modern Boxing, by Pendragon, 1879; Dict. of Nat. Biog., ix.

Caunas, an ancient city on the S. coast of Caria, in Asia Minor, opposite the island of Rhodes, to which C. belonged for a long period. It was the birthplace of Protogenes, the painter, a contemporary of Apelles.

and was noted for its fruit. Cauquenes, a tn. in Chile, S. America, cap. of the prov. of Maule, 75 m. N.E. of La Concepcion. Wheat and vines are grown largely in the neighbourhood. Pop. 8500.

Caura, a river of Venezuela, rising in the sierras of the S. and flowing N.N.W. to the Orinoco. The territory of C. stretches on either side (22,485 sq. m.), with large forests of tonka beans.

Caus, or Caux, Solomon (1576-1626), French engineer, born at appointed mathematical Dieppe; tutor to the Prince of Walcs in 1612. He entered the service of the elector palatine in 1613, and laid out the gardens at Heidelberg Castle. He returned to France and became engineer and architect to the king in 1623. His books include Institution Harmonique (1615) and Raisons des Forces Mouvantes avec Diverses Machines (1615), in which he describes the process of machine move-Diverses ment propelled by steam with so much resemblance to that of Della Porta that the invention of the steam engine has been ascribed to him by some writers.

Cause Célèbre, a term used to signify any lawsuit of great public interest or importance apart altogether from any question of legal principle, e.g. the Palmer poisoning case, the Tichborne claimant case, the Hansard libel prosecution, the Dreyfus case, the trial of Madame de Steinlieit. The expression Cs. Cs., de Steinheil. The expression Cs. Cs., according to Wharton, was the title of a series of reports collected by Gayot de Pitival of decisions of interest in French courts in the 17th and 18th centuries.

Causerie (Fr.), a short, informal article or lecture on any subject of

cease to be informal and become very elaborate essays. Matthew Arnold frequently used the C. form of essay, and it has become a regular feature Causses (Lat. calx, lime), the name on a cup of tea, the tea surface cuts of the plateaux sloping westward in the C. surface in a C. curve seen from the Cévennes in the depts. of as a bright curve on the tea culminat-Lozère, Aveyron, Gard, and Hérault. in at the bright focal point at the They are of limestone formation, dry, cup. sterile, and cut by numerous streams, the Tarn, Jonte, and Dourbie among others, into deep canons which divide the main plateau into four main and care main piacear into four main and several smaller C. The chief are the C. of Sauveterre, Méjan (4200 ft. at its highest point), Noir, and Larzac. Surface pits, underground streams, and stalactite caves are a great feature of the district. Owing to the the climate there are few industries; the chief is the rearing of sheep from Montpellier-le-Vieux.

Caustics, in chemistry, are substances which have the power of corroding or burning up living corroding or burning up to the correct or the corroding or burning up to the correct or which is necessary to the tissues, and which is necessary to the tissues, and The most commonly used is silver nitrate or lunar caustic, which is employed to destroy warts, cancerous growths, poisons, etc., and leaves the surface black after operation. C. potash and C. soda are the hydroxides of potassium and sodium respectively, while C. lime is the unslaked oxide of calcium (Cal).

Caustics are curves or surfaces formed by the reflection or refraction of light at the surface of a re-They flecting or refracting medium. are produced by spherical aberration. When a narrow pencil of rays of light is incident at the centre of a lens or mirror, all the rays are brought to one focus, but if the pencil is broad this is not the case, the rays from the periphery or margin come to a focus at a different point on the axis from those from the centre. Thus, if we take two rays arriving at points in the lens at different distances from the centre, after refraction they will cross one before crossing the axis. At this point of intersection there will be increased illumination, and the surface formed by the intersections of the whole series of rays is a surface of increased illumination known as a C. surface, and converging at a point on the axis known as the focus. form of the axis known as the locus. If a section of this surface is taken through the axis in any plane it will take the form of a cuspoidal curve called a C. curve with its point at the focus. A similar effect is produced when a broad pencil of light meets a reflecting surface and the curve is sued by the third party or creditor then more easily seen and generally has a right to obtain relief against observed. Thus, when light is shining the principal debtor. Co-cautioners,

place, 3250 ft. above sea-level, in the beautiful valley of the Laverdan in the dept. of Hautes-Pyrénées, Southwestern France. Its twenty-four thermal sulphurous springs many invalids. C. is popular as a centre for climbers on the Pyrenees. Pop. (1906) 1030.

Cautery, the name given to an insterility of the soil and the rigours of strument or process for heating or burning the tissues of the body. Τt whose milk Roquefort cheeses are inflamed part, destroys diseased or made. On the southern border of the dead tissue, or, in some cases where a Causse Noir is 'the dolomite city.' white heat is applied in cases where a provides counter irritation over white heat is applied, is useful for performing operations in parts which are either difficult to get at or vascular in nature. Its application near a bleeding artery is very efficient to check the flow of blood. There are various forms of C., and the heat applied in them varies according to the nature of the operation to be performed. The actual C. is an instrument with a

> form called Paquelin's C. has a hollow head kept hot by means of a contained benzol lamp or the passage of hot vapour. Galvano-C. contains a wire or wires along which an electric current passes, so that the heat emitted can be varied by altering the strength of the current. Of late years it has been found that C. by concentrated heat rays from the sun possesses many advantages over the other and earlier methods.

Cautin, a coastal prov. of Southern Chile, producing wheat, cattle, lumber, tan-bark, and fruit. It is traversed by the Rio Tolten, forming its southern boundary, and the C. or Rio Imperial, which rises in the Andes and flows 180 m. westwards to the Pacific. Capital, Temuco on the Rio C. Area

5832 sq. m. Pop. (1895) 78,221. Caution, or Cautionry, in Scots law, means an obligation by which one person becomes pledged as security or surety for another, either to do a certain act or pay a sum of money, or as guarantor for the good conduct or fidelity of the other. Such obligations must always be in writing, otherwise they are unenforceable. As in the English law of suretyship so in the Scots law respecting a C. the cautioner is under no greater liability than the principal debtor or person for whom he answers. The cautioner where

bound by the same writing. jointly bound to the creditor, and no one co-cautioner can insist on the obligation or liability being divided pro rata among all, though each has a right of contribution against the others afterwards. The cautioner. where bound as full debtor for the principal debtor, or jointly and severally with the latter, may be sued for the whole debt, and no longer, in the absence of any stipulation to the contrary, has any benefit of discussion, i.e. right to call upon the creditor to demand payment from the principal debtor besides registering the debt or charge. The cautioner is exempt from any further liability where the principal debt comes to an end or where the creditor alters the position of the principal debtor without obtaining the cautioner's consent. as e.g. by giving him time to pay or discharging him altogether.

Cautiey, Sir Proby Thomas (1802-71), English soldier and engineer, born in Suffolk. He served for some years in the Bengal Cavalry until he undertook the reconstruction of the Doab Canal. His great work was the construction of the Ganges Canal, a masterpiece of engineering, opened in 1854.

Cauvery, a riv. of Southern India, which rises in the Western Ghats of Coorg, traverses the plain of Mysore, and flows through two mouths into the Bay of Bengal. Its course, which is never navigable, is interrupted by twelve anicuts or dams for irrigation. The chief anicut, which crosses the Coleroon, is 2250 ft. long. Electric power for Mysore is produced from the beautiful C. Falls. Near these are the islands of Sivasmudram and Seringapatam, sacred to every devout Hindu. The C. waters a very fertile country of over 1.000,000 acres.

Caux (so called from the chalk soil) Napoleon and retired into the ranks is the name of an old dist. corresponding to that of the modern Havre, Dieppe, and Yvetot. It is in Nor-mandy, facing the Channel. Itspeople

live by pasturage and agriculture. Cava dei Tirreni, a tn. and episcopal see of Campania, Italy, 6 m. N. V. of Salerno by raif. It is situated 980 ft. above sea-level in a fertile and well-

abbey of La Trinità della Cava, founded by St. Alferius in 1025 and possessing valuable archives, now Pop.

are of a French general and an Irish lady. born at Stenay, France. He was educated at Christ's Hospital, London, and was naturalised as a British subject in 1857. He served for twenty-one years in India in both military and political branches of service, but was murdered at Kabul by the Ameer while there on a political mission.

Cavaignac, Jacques Marie Eugène Godefroi (1853-1905), a French poli-tician, son of Louis Eugène C. Ho early declared himself an ardent re-Prussian War in 1870; became re-Prussian War in Saint-Calais publican deputy for Saint-Calais (Sarthe) in 1882; served as Underof War (1885) and as Secretary Minister of Marine and of the Colonies under President Loubet (1892). He was Minister of War in the Brisson cabinet, 1898, when he played a prominent part in the Dreyfus case. He discovered the document, which in-criminated Dreyfus, to be a forgery, but resigned his position rather than consent to a new trial of Dreyfus, in whose guilt he was a firm believer. His book on the Formation de la Prusse contemporaine dealt with the

events of 1806-13. Cavaignac, Louis Eugène (1802-57). French soldier and politician, born in Paris. Entered the army as an engineer in 1824; served in Morea and afterwards in Algeria where he won great distinction. In 1848 the provisional government made him governor-general of Algeria, but the troubles of the revolutionaries in Paris led to his recall as Minister of He was appointed dictator to quell the insurgents, and drove them with great bloodshed to the barricades. In the same year he was made President of the Council. He was defeated as a candidate for the presidency of the republic by

hich led to his coup d'état of he retired into is death.

Life by Deschamps (1870).
Cavaillon, a tn. on the Durance, in the dept. of Vaucluse, South-eastern France. It has Roman and medieval remains, including a cathedral, and is a commercial centre for melons and early vegetables, and for the silk and preserved fruits industries. (1906) 5760.

Bartolommeo (1503-Cavalcanti, 62), a Florentine noble and orator, who led a revolt against the Medici. and was afterwards employed by Pope Paul III.

of commune (1901) 23.415.
Cavagnari, Sir Pierre Louis
Napoleon (1841-79), British soldier
and military administrator, the son

demned to torture among the Epicureans and Atheists, but Guido himself was a friend of the great poet, who dedicated his Vita Nuora to him. By his marriage with Beatrice, daughter of Farinata Uberti, C. became head of the Ghibelline factor of Florence and when the leaders of helled against Lories VIV. Chestian in the leaders of helled against Lories VIV. Chestian in the leaders of helled against Lories VIV. Chestian in the leaders of helled against Lories VIV. Chestian in the leaders of helled against Lories VIV. Chestian in the leaders of the leader against Lories VIV. Chestian in the leaders of the leader of in Florence, and when the leaders of both Guelphs and Ghibellines were driven out by the people of Florence, he was banished to Sarzana and returned to Florence only to die. He wrote in prose on philosophy and oratory, but his most famous work is the Canzone d'Amore. He wrote many hallads, songs, and pastorals of great beauty and sweetness, but there is a tendency in many of his poems towards too great an admixture of metaphysical philosophy borrowed metaphysical philosophy borrowed from Plato and Aristotle, which while adding to the depth, spoils the sweetness. The best edition of his works is Ercole's Guido Cavalcanti e le sue Rime (Milan, 1885). See also D. G. Rossetti's rendering of several of his poems in The Early Italian Poets (1861), reprinted in 1892 as Dante and his Circle.

Dante and his Circle.

Cavalcaselle. Giovanni Battista (1820-97), Italian author and art critic, orn at Legnano. In 1846 he went to Germany, where he met J. A. Crowe (1825-96) (q.x.) and returned to Italy with him. In 1848 he was banished for his share in the Italian revolution; he accompanied Crowe to London and ne accompanied Crowe to London and collaborated with him in Early Flemish Painlers (1857). In 1858 he returned to Italy and published his History of Painling in Italy (1864-71), and the Lives of Titian (1876) and Paphal (1882) in all of Fig. 1864. Raphael (1883), in all of which he was assisted by Crowe. In 1861 he became secretary to Giovanni Morelli (1816-91), the art critic and patriot, then engaged as president of a commission appointed to bring all works of art, which could be considered public property, under government control. In 1878 he was appointed chief of the National Art Gallery at Rome. Their great History of Painting was under revision by Crowe until his death in 1896, when it was continued by S. A. Strong (d. 1904) and Langton Doug-las; vols. I. and ii. appearing in 1903, provements in the practicability and and vol. iii. in 1909. capability of those weapons.

las; Vois. 1. and 11. appearing in 1905, provements in the practicality, and and vol. iii. in 1909.

Cavalier (Low Lat. caballus, horse), cavallini. Pietro (c. 1279-1364), an originally a horseman, horse-soldier, latian painter, was a pupil of Giotto hence knight, gallant. In English history the name is familiar as that horsewate of the Structure. given to the adherents of the Stuarts in the contest between Charles I. and parliament, their opponents being Roundheads. At first a derisive nickname (hence the meaning of the adj., rude. contemptuous, e.g. 'cavalier The name survived till the extinction

Cavalier, Jean (1679-1740), Camisard leader, born at Ribaute, the son of a peasant. In 1702, when the persecuted Protestants of Covennes rebelled against Louis XIV., C. became one of their first leaders, and several times defeated the royal generals, obtaining excellent terms from the Marquis de Villars in 1704. He fought at Almanza in 1707, and later entered the English service, where he became

a general. Cavalieri. (1598 -Buonaventura 1647), an Italian mathematician, devoted his life more especially to the study of geometry. From his youth upward he was the victim of a cruel disease, which his work helped him to forget. In his Geometria indivisibilium continuorum novā quādam

ratione promote his celebrated '

which has beer termination of

volumes, and has contributed not a little to the development of the integral calculus. Heapplied his method with equal success to areas and solids. According to his conception all space may be regarded as made up of an infinite number of parts, which represent the limit of decomposition which the mind can imagine anything to undergo. There are further treatises of his on trigonometry, logarithms, and conic sections.

Cavalli, Francesco (1600-76), Italian musical composer, born at Crema, his real name being Pier Francesco Caletti-Bruni. He took the name of C. from his natron, a nobleman at Venice, where he became a singer at St. Mark's in 1617, rising eventually to be maestro di cappella. He wrote numerous popular operas, which are

dramatic and humorous, though often exaggerated.

Cavalli, Giovanni (1809-79), Italian artillerist, born at Turin, and studied lweden. In 1846

and his experiction of breech-

and recently some valuable paintings of his at the church of Santa Cecilia, in rude, contemptuous, e.g. 'cavalier Rome, have come to light. It is said treatment'), it was later used as a he helped his master in the mosaic title of honour (cf. French chevalier). of the Navicelle at St. Peter's Church.

Cavallo, Tiberius (1749-1809), an

Italian electrician, settled in England go, but their employment had been trainan electrician, settled in England go, out their employment had been about 1771, and remained there for various. The earliest type of horse of the rest of his life. He invented which we have any evidence was inchemical apparatus and many excapable of carrying a well-armed man tremely sensitive and accurate inmean order.

Cavallotti, Felice (1842-98), Italian politician, poet, and dramatist, born at Milan. In 1860 he published a tract, Germania e Ilnlia, against foreign rule, and joined the Garibaldian forces, fighting with them again in 1866. In this year he became editor of the Gazzettino Rosa, and both there and in the Gazzetta di Milano wrote numerous bitte

monarchical

his policy bei and radical. In 1872 he entered parliament as deputy for Corteolona, and on the death of Bertani in 1886 became leader of the party of the Extreme Left, succeeding in greatly strengthening the party and increas-ing his own popularity. He was n violent adversary of Crispi, and was famous for the frequent lawsuits and duels in which he was involved. He was killed in a duel with Count Marcola, editor of the Gazeman. He wrote some beautiful lyric poetry. including Anticaglie (1879) and R Libro dei Versi (1898); and among his dramas are Alcibiade, Messeni, and Cantico de' Cantici. His works in nine vols. were published at Milan in 1896.

Cavalry. In making a definition of the term C. it is very necessary to differentiate between C. and mounted infantry. The term is sometimes used as covering all sorts and descriptions of mounted men used in the field, but the term C. is now held to include only such portion of the army that by

ment. The history of C. can to begin only with the begin the age of chivalry. It is, of obvious that the horse was used in armies previous to this, but it had not been used for the purpose of them a great advantage. Again, the mounting a number of men who by sheer weight and impetus would carry all before them. Horses had been employed in warfare as far back in the history of warfare as we can not go too far either in pursuit or in

struments for measuring the force of and Assyria we find the horse used, electrical current. In his Treatise on but only as a chariot pulling animal. the Nature and Properties of Air he Later we find a number of mounted discussed Dr. Priestley's recent dismen used in the army, mainly, again, coveries, rejected the phiogiston hy-however, for the purpose of strategy. pothesis, and noted for the first time! It was necessary to know what the the nature of the influence of light and movements of the opposing forces air on plant life. His Treatise on were, and for this purpose mounted Electricity, 1777, proved him also to have been a natural philosopher of no of the age of chivary, however, we find that a battle resolves itself very largely into a matter of C. charges. The knights in armour, mounted on great chargers which were themselves at a later date clad in armour also, swept down upon the infantry and usually carried all before them. This was practically the state of affairs during the 15th century, but the overthrow of the feudal C. had by then become largely a matter of time. At the battle of Stirling Bridge, at Courtrai, and at Crecy, the new tactics of the army of infantry had shown the ability of the bowmen and infantry to disperse and overthrow C. The 'schiltrouns' of Wallace and the stakes of the archers at Crecy had overthrown the feudal C. Another example which can well be quoted here is Bannockburn, where the furious charge of the feudal C. of England was successfully countered by the tactics of Robert Bruce. Other tactics would have to be adopted by the C. before they could again vaunt their superiority over the infantry. Other influences also were at this time at work. The introduction of gun-powder and the consequent use of fire-arms had led to many innovations in the art of war. The C. began to arm themselves with fire-arms in addition to the lance which they carried, and their greater speed and mobility gave them a great advantage over the foot soldier. For the next century a duel waged be-tween the C. and the infantry. First only such portion of the army that by the combined action of horse and the combined action of horse and the commander. It is to be noticed that commander. It is to be noticed that mounted infantry, for example, use their horses only for the purpose of the obtaining greater celerity of movenent. The history of C. can to give themselves the adment. The history of C. can with fire-arms, and annon had become

early years of the 18th century they found insufficient employment, and during the Seven Years' War they were found to be lacking in dash and ignorant of manœuvring. Under Annalee, in the county of Cavan in Frederick the Great the Prussian C. Southern Ulster, Ireland. Most of the reached again a high standard, only codeline at the end of the Seven I Years' War. During the early stages (rebuilt in 1819), is the most confractically non-existent. practically non-existent. A chief industry, but of mounted infantry were use these were mounted only for 1 potatoes and oats, vantages of mobility. Under Napoleon flax is cultivated for a declining linen infantry to be charged were first of all portance. riddled by a heavy artillery fire, and then the C., which had been massed within easy striking distance, were launched against it, to continue and finish the work made easy by the disorder and confusion created by the fire of the critical to disorder and contision created by it is also sometimes used of any kind the fire of the artillery. During the of light and smooth air, and frecampaigns of the 19th century the campaigns of the 19th century the campaigns of the whole played an important part. Following immediately on the Napoleonic wars they were practically disbanded, and during the latter part of the century and printer. In 1731 he began to the question of substituting to a large publish the Gentleman's Magazine, in degree mounted infantry has been which parliamentary debates were recorded and the play has found strengt for the first interactive deal at the parliamentary debates were mooted, and the plan has found strong advocates. For it is argued the conditions of warfare have changed in such a degree that the use of C. in the sense that it was used by Napoleon is no longer possible or necessary. The only use of mounted men is for purposes of mobility, and a large number of supernumerary C. are always necessary at the beginning of living was Islington (1662-59), but a campaign. It is obvious that it is much easier to recruit efficient riffe men for a mounted infantry than

search of plunder. The battle of is to recruit trained C. men. It is, Lewes may be quoted as an example where the C., having overthrown the enemy, lost the day owing to too prolonged a pursuit. The mercenary is superiority to feudal levies, but they superiority to feudal levies, but they dischard also shown that they were not for the C. to support the work of the content and also shown that they were not for the C. to support the work of the content and also shown that they were not for the C. to support the work of the content and also shown that they were not for the C. to support the work of the content and also shown that they were not for the C. to support the work of the content and the masses of and any shown that they were not for the C. to support the work of the to be depended upon in the matter artillery and penetrate the masses of of a quick return to the battlefield. infantry confused by the artillery The C. of the Protestants in the fire, i.e. return to the evolutions of Thirty Years' War, however, showed, Napoleon. The C. regiment is divided that, actuated by the highest motives up into four squadrons, each of which of patriotism, they could be used with squadrons has two troops, and the exceedingly great advantage. The Cromsides of Cromwell showed their the army in the field. Each brigade fearlessness and courage in the charges of C. is supported by a battery of against the pikemen and musketeers. They had certain advantages over to cover all movements of the main the C. of modern times, but on the body of the troops, to complete a whole their work was as dangerous battle by charging the enemy, or to as it is to-day, and they proved cover a retreat. The recomplifing is themselves to be the most useful done by a body of C. moving about 'arm' that a general had. But again one to two days' march ahead of the C. declined; during the wars of the main body, but keeping up constant and detailed communication. are naturally an essential part of the army during the course of a battle.

. In the province chief industry, but

the work of the C was revived, and industry. Cootehill and Belturbet are the C. were used in combination the other towns, the Erne and the with the artillery. The mass of Woodford the other rivers, of importance. Pop. of county (1901) 97,541, of which 80 per cent. are Roman Catholics.

Cavatina (Fr. cavatine), a term applied in music to a simple melody, having no second nor a da capo part. It is also sometimes used of any kind

for the first time reported at some length. C. died with his hand gently pressing 'Samuel Johnson's. The latter had become his parliamentary reporter in 1740, and afterwards his friend.

Cave, William (1637-1713), divine, took his M.A. degree at St. John's College, Cambridge, in 1660. His first n of

1 1725 The

twelve books he wrote on early church history were once standard works.

Cave Animals, a term which is applied equally to animals whose remains have been found in a fossil state in caves and to living creatures which have adapted themselves to an existence in the dark and quiet shelter discovered by their ancestors. They are often distinguished from their kindred by the specific term spelæus (Lat. spelæum, a cave), e.g. the fossil hyæna and tiger are known as Hyæna spelæus and Felis spelæus respectively, while the living blindfish is Amblyopsis spelæus. Their frequent lack of vision has also obtained for many of them, as for deepdwellers, the bλός, blind), e.g.

of blind fishes. The chief characteristics of animals of this type are their reduced or absent eyes and consequent welldeveloped sense-organs, such as antenne and feelers, lack of colour, and their predaceous carnivorous habits occasioned by lack of vegetable matter in the darkened home, Among the gastropod molluscs several species of snails have been found in Austrian caves which have developed blindness as the result of their mode of life. Blind cave-dwellers are represented also in the Crustacea and Arachnida by several species, notably by Cambarus stygius and Anthrobia mammouthia respectively. In the orthopterous insects a genus of small cockroaches of a peculiar nature has been discovered in caves of the Philippine Islands: the females are devoid of sight and of all power of flight. The Carabidæ and Silphidæ are well-known families of coleopterous insects which include several cavedwellers, usually sightless, e.g. in the carabid genus Anoshthalus found carabid genus Anophthalmus found in Europe and America, and the American genus of Silphidæ, Adelops. Rising higher in the animal world we come to the phylum Pisces, and here there are numerous fishes which shun the light and prefer a cavern for a the light and prefer a cavern for a home. The Amblyopsis, which occurs in the Mammoth Cave of Kentucky, is a colourless fish, about five inches in length, in which the eyes and optic nerve are imperfect; in the same family, i.e. Amblyopside, are found the Chologaster, which has normal sight, and Typhlichthys, a blind and colourless fish whose home is near the Mississippi. A blind salamander, about the chologaster in the chologaster is the colourless fish whose home is near the Mississippi. A blind salamander, about the chologaster is the colourless fish whose home is near the Mississippi. A blind salamander, about the chologaster is the colour of the chologaster is the chologaster in the chologaster in the chologaster is the chologaster in the chologaster in the chologaster in the chologaster is the chologaster in the chologaster in the chologaster is the chologaster in the abits the

souri, and ibians are and Probeing a

native of Carniola. Its eyes are com- succeed W. E. Forster as chief secrepletely hidden, and when exposed to tary to the Lord-Lieutenant of Ire-

the light the colourless creature turns black.

Caveat, a formal notice or caution given by a party interested, to a court, judge, or public officer, against the performance of certain judicial or ministerial acts. In a more restricted sense a C. denotes (1) a caution entered in the Probate, Divorce, and Admiralty Division to stop the granting of probates of wills or letters of administration; (2) a notice given to the bishop by a party who disputes a particular right of presentation to prevent the institution of a clerk to a benefice; and (3) a notice lodged at the patent office to prevent the registration of any invention under the patent laws.

Caveat Emptor (Lat., let the buyer be on his guard), a legal maxim which in the law relating to a con-tract for the sale of goods means that a purchaser must take all reasonable precautions in buying from another, for as regards the quality of a thing sold in the general circumstances of the sale he will not be allowed afterwards to repudiate the sale because he has not obtained all he wants. The Sale of Goods Act, 1893, however, has destroyed the maxim of some of its force by implying in every contract of sale conditions that the goods sold shall correspond to their description, that they shall be reasonably fit for the purpose for which the buyer wanted them, provided he made that purpose known to the seller, that the bulk shall correspond to the sample, and that the seller has a right to sell the goods; with the result that on the breach of any such condition the buyer can reseind the contract.

buyer can rescind the contract.
Cavedone, Giacomo (1577-1660), an
Italian painter, born at Sassuolo, near
Modena; studied under the Caracci
and Guido, and was much influenced
by Titian, whose works he studied at
Venice. Most of his work was done
for churches in Bologna, and is in
both oil and fresco. His colouring,
design, and execution are all good,
His best pictures are: "The Natirity,"
'Virgin and Child upon the Clouds,'
'The Holy Family,' and 'The Adoration of the Magi.'

Cavendish, the surname of the ducal House of Devonshire (q.v.).

Cavendish, Lord Frederick Charles (1836-82), second son of the seventh Duke of Devonshire. He married a niece of Mrs. W. E. Gladstone. He was private secretary to Lord Granville, 1859; elected M.P. for Barrowin-Furness, 1865; was Gladstone's private secretary. 1872; financial secretary to the Treasury, 1880. In 1882 he was chosen by Gladstone to succeed W. E. Forster as chief secretary to the Lord-Lieuteapt of Irany to the Irany to the Irany to Irany Iran

a financial scheme for land-purchase. He landed at Dublin on May 6: he passed the afternoon with Lord Spencer in Dublin Castle, and about six o'clock he walked with the Under-Secretary, Thomas Henry Burke (q.v.), into Phœnix Park. They were there set on and brutally murdered by a gang of assassins, belonging to the secret society of Invincibles, in Thomas Henry front of the vice-regal lodge. weapons used were amputating knives, specially imported for the purpose. James Carey, a member of the Dublin corporation, turned informer, twenty persons were arraigned, and five were executed and others sentenced to penal servitude. Carey sailed for S. Africa, but was murdered on board by Patrick O'Donnell, who was hanged in 1883. The assassins did not know who Lord Frederick was, but they meant to murder Burke. The late secretary, Forster, had narrowly escaped assassination. The murder had far-reaching political consequences for Ireland. and 'Well has it been said that Ireland seems the sport of a destiny that is aimless.' (Morley, Life of Gladstone.) Lord Frederick is buried at Chatsworth, and a fine statue is erected to his memory at Barrow-in-Furness. Pigott's forged letter of C. S. Parnell condoned this murder.

Cavendish, George (1500-1562?), an English historical writer, was the eldest son of Thomas C., a clerk in the Exchequer. He married Margery Kemp, a niece of Sir Thomas More, and became gentleman-usher to Cardinal Wolsey, being wholly devoted to his service through prosperity and disgrace. After Wolsey's death he wrote his patron's biography, which was circulated in MS., and probably was made use of by Shakespeare in his portions of Henry Shakespeare in his portions of rearry VIII. In 1641 it was first printed as The Negotiations of Thomas Wolsey; the genuine text, however, did not appear till 1810, a better edition appearing in 1815. It is a stable of the control o edition appearing in 1815. It valuable authentic record of

period.

Cavendish, Henry (1731 - 1810), a natural philosopher, spent three years at Peterhouse, Cambridge. His disto an eccen-

I the possesdevoted his

whole life to chemical and physical research, and found time also to work at mathematics and to read papers before the Royal Society. Not only did he discover the extreme lightness

land, Earl Spencer, not only as a before 1783 he had ascertained the most capable and thoroughly high-constituents of water and atmominded man, but as having framed spheric air, and had conducted his famous experiments on the density of the earth. Sir Humphry Davy speaks enthusiastically of the extreme accuracy of his work.

Cavendish, Margaret, Duchess of Newcastle (c. 1625-73), was the second wife of the Duke of Newcastle (1592-1676), and is best known as the writer of his life. Formerly she had been maid of honour to Henrietta Maria. Husband and wife were inordinately fond and proud of one another. Walpole describes her as a 'fertile pedant' with an 'unbounded passion for scribbling.' Her maids were expected always to be prepared to 'register her Grace's conceptions.' Her works are marred by diffuseness

and illogical sequence of thought.

Cavendish, Thomas (1560-92), cir------nded a ship in

expedition to the following nall ships from

Plymouth, in which he sailed round the world (1586-8) by way of the Magellan Straits, the Eastern Archipelago, and the Cape. During this royage he discovered Port Desire, Patagonia, burnt three Spanish cities, and captured Spanish treasure. He died at sea off Ascension, brokenhearted because his second expedition was not so successful as the first.

Cavendish, William, Duke of New-castle (1592-1676), was educated at St. John's College, Cambridge. James I., pleased with his learning and charm of manner, made him Viscount Mansfield, and Charles I. appointed him governor of his son, Charles, in 1638. C. had previously entertained his sovereign at Welbeck, when Ben Jonson, whom he patronised, composed the masque. When the Civil War broke out he proved a staunch Royalist, and made a generous con-tribution of £10,000 to the King's treasury. Collecting troops at his own expense, he won Yorkshire for his cause by the victory of Adwalton his cause by the victory of Advancen Moor (1643). In that year he captured Hull, but in the following, after the rout of Marston Moor, went abroad, where he lived in straitened circumstances till the Restoration, when he returned to England. In spite of his splendid devotion, King Charles II. restored to him only a part of his estates part of his estates.

Caversham, a tn. in the Henley division of Oxfordshire, England, on R. Thames, opposite Reading. Pop. 6600.

Caves, or Caverns (Lat. carus, hollow), hollow places formed in the earth or in rock. They may be proor Caverns (Lat. of hydrogen—which led at once to earth or in rock. They may be proballoon experimenting, etc.—but duced by the action of water or by the destruction and displacement of the roof of the C. is supported by strata through an earthquake or pillars. Sometimes these formations landslip. The regular beating of are of a pure dazzling white, but more waves upon the seashore wears away the softer portion of the cliff until cavities are formed. Fingal's C., Staffa, is an excellent example of marine crosion. The sand and gravel, carried up by the sea, have also a great eroding power upon rocks. In rock-salt districts large caves are formed owing to the free solubility of France and Switzerland large caverns have been formed under glaciers. owing to the shifting of the ice. C. are. however, more frequently formed by the chemical than by the mechanical action of water. Carbonic acid, which is present in most waters, derived either from the air or from decaying organic matter in the soil, acts upon mineral rock forming salts, which are carried away in solution, leaving cavities behind. Large subterranean galleries, caverns, and channels have been formed in various districts by underground streams and rivers. river that has left its course above ground eats its way through the earth, until it can finally empty itself into the sea. Whenever such a river, for some natural cause, has abandoned its subterranean watercourse. the channel it has occupied gradually dries up, and tortuous underground passages remain, linking together the C. previously made by the water. The holes through which the rivers have descended on their downward course below the earth are known The direction of the as sink-holes. caverns and channels can frequently be ascertained above ground by examination of these entrance-holes. Fine specimens of such sink-holes are found in Kentucky and Florida. limestone districts calcareous posits are left on the walls of subterranean C. This is due to a double three different species of mammals chemical process. Firstly, the car- and five of birds have been deduced bonic acid acts upon

carbonate (or linestone),
soluble bicarbonate. Wh
tlon is left standing on the walls of the
C, the reverse process takes place,
and glistening crystals of calcium
Celebrated American Caverns, 1882. carbonate remain. If water, laden with calcium bicarbonate. trickling through the roof of t

often are coloured by some foreign matter in the water. When the C. is lit up artificially, the effect is extremely beautiful. Some of the finest specimens of such C. are to be found in Austria, whilst in England most beautiful specimens can be seen at Cheddar. C. are also formed under sheets of lava in volcanic districts, such as parts of S. America and Iceland. The lava collects over a mass of ice (or over snow which then is solidified); melting of the ice subsequently takes place, and a hollow is left beneath the lava. The Fossa della Palomba, at Etna, was probably formed by the evaporation of water below the lava into steam, which afterwards found an outlet and escaped. The remains, such as bones and rude implements of domestic use, that have been found by means of excavation prove that men in pre-historic times inhabited C. Human bones have been discovered, em-bedded sometimes in mud and fre-quently in calcareous matter. This latter fact—that bones have covered in limestone crystals-shows that the C. must later have been deserted, and the stream of water returned to its former subterranean course. Bones of mammals belonging to the Pleistocene period have also been found. From the remains of bones discovered, it appears in general that the animals that visited C. resembled large hymnas or bears, but in a few C. remains of herbivorous animals have also been discovered. In the C. at Kirkdale, near York, as many as 300 hyenas have from time to time been found. The bones in the

 belonged a of mares thirty-

Consult Badin, Grotles

Caviare is the roe of the sturgeon ag. It is a favourite ivoury. The variety as 'ikra,' which is

trickling through the root of the course of ages similar are formed in the shape of icicles. These deposits slowly grow in size as the water drips from them, and where the solution falls on the floor of the C., dome-shaped mounds appear. The roof the solution falls on the floor of the c., dome-shaped mounds appear. The roof the solution falls on the floor of the C., dome-shaped mounds appear. The roof the general proves that the general proves that the solution falls of the floor of the c., down delicacy in Shakee on it was a known delicacy in Shake-

the speare's day. be- Cavite, the cap. of the prov. of that Cavite, Luzon, Philippine Is. It is

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situated on Manila Bay, 8 m. from the city of Manila, is a fortified seaport and a naval station of the United States, the N. part of the town serving as a coaling station. It is an old town containing narrow streets and buildings of stone with upper stories of wood; it possesses five churches and a high school. It is the chief naval base of the Philippine Is., and during the 19th century was the scene of political troubles. An American squadron under Commodore George Dewey wrested it from Spain in May 1898. Pop. of province, 15,630; town, 4494. The chief products of the province are sugar, rice, coffee, and indigo.

Cavour, a to of Turin, Piedmont, Italy, 7 m. S.E. of Pinerolo. It has marble and slate quarries, manufs. silk, and has a tanning industry. Pop.

7000.

Cavour, Camillo Benso, Count (1810-61), Italian statesman, born at Turin, of an ancient aristocratic family of Piedmont. He was educated for the army at the Military Academy at Turin till 1826, when he obtained a commission in the engineers and was engaged in works of defence at various fortresses. During his leisure he studied English politics, and de-veloped his strong liberal views which caused him to be regarded In 1831 he resigned his suspicion. commission and devoted himself to social problems, practical agriculture, and foreign travel. He visited Paris and London, and gained a profound knowledge of European politics. He Lizi, and founded the Society

culture of Piedmont. In started at Turin a newspa Risorgimento, for the purpose of spreading the ideas of constitutional reform. In Jan. 1848, the revolution in Sicily broke out, and C.'s speech on the constitutional questions had the utmost influence, not only on the people, but on the Piedmontese king, Charles Albert, who was induced to grant a constitution. C. was not offered a seat in the first ministry. but his articles in his paper powerfully stirred the growing national enthusiasm against Austria and the tyrannics of the different kingdoms and principalities in which Italy was split up. He felt that the moment had come for war with Austria, and his skill and enthusiastic patriotism was powerful enough, and war was de-declared, 1848. The defeats at Cus-tozza and Novara led to an armistice, the abdication of Charles Albert in favour of his son Victor Emmanuel ll., and peace. C. was not disheartened and threw himself still more ardently into his ideal of

Italian kingdom. His difficulties were immense, for he had, in addition to all the external force of Austria and the supporters of the dynasties in Tuscany, Naples, etc., to face the divided policies of Mazzini and the republicans and the danger of an anti-papal and anti-clerical movement, which would have destroyed his schemes. In 1850 he became minister of agriculture and merce, and in 1851 of finance, but he resigned on a difference with the prime minister, d'Azeglio. He then travelled in France and England to discover the trend of foreign opinion in regard to the Italian problem. In 1852 he returned and was appointed Prime Minister, a post which he filled, with short intervals, till his death. He now began his masterly scheme of foreign policy, which made a united Italy possible, and ranks his name with Bismarck in modern European He placed Sardinia and history. Piedmont among the powers by send-ing a well-disciplined force to the Crimea, Austria remained while neutral. He secured the benevolent neutrality of England, and in 1858 formed an alliance with Napoleon III., followed by a victorious joint campaign against Austria (Magenta and Solferino). The agreement of Villa franca, brought about by the sudden withdrawal of Napoleon, left Venetia in the hands of Austria, and bitterly disappointed C. who resigned, but later returned to office. He had ceded Nice, Garibaldi's birthplace, and then managed his father's estates at Savoy to France in return for the aided

' Italy followed, and the subsequent defeat of the Neapolitan kingdom in Sicily and Naples by Garibaldi. Save for the question of Rome and the papal temporal power and Venetia, C.'s Victor policy had succeeded. Victor Emmanuel II. was king of a united Italy. A violent scene with Garibaldi in the parliament broke him, worn out by anxiety and overwork. He died at Turin in June. The regenera-tion of Italy had been his ideal, and his life's work had been given to that end. See G. Buzziconi. Bibliographa Curouriana, Turin, 1898: Countess E. M. Cesaresco. Carour, Lond., 1898; Lanichelli, Carour, Flor., 1905.

Cavy, or Cavia, a genus of rodents found in S. and Central America, typical of the family to which the capybara or carpincho belongs. Cs. have rough hair, well-developed ears, no tail, reduced toes, four on the fore feet and two on the hind feet. The guinea-pig, C. cobays, known to us as a domestic pet, is descended to the constant of the freedom from Austria and a united from C. porcellus, the restless C., a

species with greyish fur. The Pata- its vicinity, is now marked by a white gonian C. is a large animal of the marblememorial. Pop. (1901)197,170. same family Cavilde, but its two species form the genus Dolichotis; it resembles somewhat a long-legged hare, and has the same number of toes as Cavia.

Cawdor, a parish of Inverness and Naim, Scotland, 3½ m. S.W. of Naim. In the fine old mediæval castle the murder of King Duncan is popularly supposed to have taken place, but it actually occurred several centuries

before the castle was built. Pop. 1500. Cawdor, Frederick Archibald Vaughan Campbell, third Earl of (1847-1911), born at Windsor; edu-in 1888 became a county councillor for Carnarvonshire, and in 1896 lordlieutenant of Pembrokeshire; in 1898 succeeded to the title; in 1903 was appointed First Lord of the Admiralty; and in 1908 became a member of the Council of the Prince of Wales. From 1895-1905 he was Chairman of the Great Western Railway.

Cawley, William (1602-66), an English regicide. He founded St. Bartholomew's Hospital, Chichester, 1626 (now a workhouse). C. was fined for refusing knighthood, 1629. He was M.P. for Chichester, 1627; for Midhurst, 1640, and was an active member of the Long Parliament. He was excepted from pardon, 1660, and fled to Belgium, and then to Switzerland, his property being granted to James, Duke of York. See Noble, History of the Regicides, i.

Cawnpur, a city (and district) on the S. bank of the Ganges, in the Allahabad division of the United Provinces, British India. Lucknow lies 40 m. to the N.E. Once an im-portant frontier statics. Lucknow portant frontier station under the E. India Company, it is now known as the junction of four railroads, the Indian Midland, the E. Indian, the Ondhand Rohilkhand, and the Rajputana. The chief articles of commerce are various leather goods, such as harness and shoes. The district was once a centre of the indigo trade. Historically the city will long be re-membered as the scene of a series of massacres of men, women, and children by the Nana Sahib in July 1857. General Wheeler, who with a force tried to protect the European residents, was encamped for twenty-one days in a bare field fully exposed to the fire of the in-surgents. The well of C., which enjoys an evil notoricty because of the atrocious butcheries committed in Andes, in Eucador, practically on the

Caxias: 1. Town of Maranhão, Brazil, formerly known as Aldeas Altas, on R. Itapicuru, 180 m. S.E. of Maranhão, with which it has river connection. It has rive and cotton industries. Pop. 10,000. 2. Italian industries. Pop. 10,000. 2. Italian colony in Rio Grande dul Sul, Brazil, 60 m. N.W. of Porto Alegre. Pop. 15,000.

Caxton, William (1422?-91), the first English printer, born in Kent. In 1438 he was apprenticed to a rich silk mercer, and the latter dying in 1441, young C. was despatched to Bruzes to finish his term. Here he set up business for himself, and in 1464 and 1468 he was employed, as governor of the Company of Merchant Adventurers, in negotiating commercial treaties with the dukes of Burgundy. The second time his mission was quite successful, and from 1471-6 he entered the household of the Duchess Marganet, sister of Edward IV., and wife of Charles the Bold of Burgundy, as commercial adviser. There is some doubt as to where C. actually learnt the art of printing. printing. Many-among them Wyn-kyn de Worde, his disciple-say it was at Cologne, between 1471 and 1474, in company with Colard Mansion, who was his partner at Bruges, where he printed his first book in This was a translation of a French romance entitled The Recuyell of the Histories of Troje. In the same year his second printed work ap-peared, The Game and Playe of Chesse, another translation. In 1476 C. was duly installed in Westminster. Lord Rivers' version of *The Dictes or* Sayengis of the Philosophres, 1477, has the distinction of being the first issue from C.'s printing press in his own country. Thenceforward C. published some eighty books, many of them his own translations of famous French legends and cycles of romance. His Myrrour of the World, 1481, is the first volume he issued with woodcut illustrations, whilst as many seventy woodcuts were in-erted in his edition of the Golden Legend—his own compilation of a French work of the 13th century, containing lives of the saints. But to his fellow-country-men he will be remembered above all for his services in fixing the English language, which was in a changing, somewhat chaotic condition, and in bringing the literary masterpieces within the reach of those who could Twice he printed Chaucer's Canterbury Tales, and he brought out also Gower's Confessio Amantis, 1483.

name (pop. 3000) at the foot. Alti- of the ancients.

tude, 19,255 feet.

Cayenne, a port and the cap. of French Guiana, at the mouth of the Cayenne on the N.W. of the island of that name. It has two quays, but no docks, and only ashallow harbour. The staple exports are gold, cocoa, hides, and spices, whilst it imports wines. manufactured goods of all kinds, and corn. The inhabitants live on bread and wine, and are subject to attacks of yellow fever Pop. 12,600.

Cayenne Pepper, a hot condiment, reddish in colour, which is used for flavouring sauces, pickles, fish, etc. It is ground from the seeds and pods

of Capsicum, a genus of plants be-longing to the order Solanaceæ.

Cayes, or Aux Cayes, seaport on S. coast of Hayti, 98 m. S.W. of Port-au-Prince. Exports coffee and logwood.

San Juan. the centre of a rice and cotton district.

Pop. 3763.

Cayley, Arthur (1821-95), an English mathematician, born at Richmond, in Surrey. He was educated at King's College, London, and Trinity College, Cambridge. Senior wrangler of his rear (1842), he was also winner of the Smith prize. He became a fellow rambia, W. Africa, having a coast of his college, but in 1846 he left line of about 100 m. from the mouth Cambridge, and three years later was, of the Seneral to Cape Verde, and called to the bar. He practised as a extending inland for from 20 to 60 m. barrister for 14 years and then returned to Cambridge as Sadlerian professor of mathematics. He wrote over \$00 papers and memoirs which, collected and published by the Cambridge University Press, form a monument to his fame as one of the greatest of mathematicians. He possessed honorary degrees of almost every foreign university, and was a fellow of the Royal Society. He died at Cambridge, and a portrait and bust of him are to be found at Trinity College.

Caylus, Anne Claude Philippe de Tubières, Comte de (1692-1765), archæologist, served with some distinction in the Spanish War of Succession serious life was zealously devoted to the collection and study of antiquities the collection and study of antiquities; (Catholic, In 1843 he took holy orders, and the promotion of art by patron-became director of the coclesiastical age and writing, but he was also notorious for his intimate knowledge served in the Constituent Assembly of the most dirreputable side of of the republic in 1845. Author of Parisian life. His great work was his Eludes historique of critiques sur Recueil d'Antiquilés Expeliennes. I'Allemagne ontempronine, 1853, and Elrusques, Greeques, Romaines, et. Nos Maux el leur Remètes, 1854. Gouloises (6 vols., 1752-5), but he also wrote a treatise on Roman coins Spain, 40 m. N.E. of Seville, also wrote a treatise on Roman coins Spain, 40 m. N.E. of Seville in the under the emperors, and a memoir Sierra Morena. It has Roman and (1753), in which he explained the Moorish remains, Pon. 7782. (1755), in which he explained the Moorish remains. Pop. 7782.

equator, having a town of the same exact nature of the encaustic painting The copperplate engravings, which he himself made of Bartoli's copies from ancient pictures,

are excellent.

Caylus, Marie Marguérite le Valois de Villette de Murçay, Comtesse de (1673-1729), a French noblewoman, born at Poiton, the granddaughter of Theodore Agrippa d'Aubigné. was taken to Paris and educated at court by her aunt. Madame de Main-tenon, and in 1688 married the Marquis de C., who died in 1704. She won a great contemporary reputation as a beauty and wit, and left a book which was edited as Sourcours by Voltaire in 1770.

Cayman, see CAIMAN.
Cayman Islands are three low-lying islands of the W. Indies, which were colonised by the British from Jamaica, 178 m. to the E.S.E., of Prop. 25,000. which they still form a dependency.
Cayer, th. of Porto Rico, W. Indies. Columbus, who discovered them, in the Central Cordillera, 25 m. S. of named them Tortugas after the It is a summer resort, and turtles which abound, and which are f a rice and cotton district, even to-day the chief export of the islands. Cocoa-nuts are grown on Little C. and C. Brac. The islands are rich in timber, and their inhabitants are clever shipwrights. Georgetown is the chief city of Grand C. pop. of the group is some 5000.

Inhabited by Yolofs.

Cayster, ancient name of a river of Asia Minor, 75 m. long, which flows into the Guli of Scala Novo, 35 m.

S.E. of Smyrna.

S.L. of Smyrna.
Cayuga: 1. Co. of New York State,
U.S.A., bounded on N. by Lake Ontario, and on W. by Lake Cayura.
It has deposits of sait, gypsum, and
limestone. Area. 722 sq. m. Pop.
66.234. 2. Lake of New York State.
U.S.A., lying parily in Tompkins co.,
and forming the boundary between
Cayuga and Seneca cos. Length, 38
m.; average width 4 m. 4t the bea. m.; average width, 4 m. At the head lies Ithaca.

Cazalès, Edmond de (1904-76), a French political writer, born at Gre-(1709-14), and then travelled abroad. French political writer, born at Grevisiting Greece and the East. His made (Haute-Garonne). He was an active revolutionist and a Roman Catholic. In 1843 he took holy orders.

 now included amed after one of the governing chiefs, whose settle-

ment is near the Luapula R., about 30 m. S. of the lake. It produces manioc, maize, cotton, ivory, iron, and copper.

Cazin, Jean Charles (1840-1901), a French painter, born at Samer, Pas-de-Calais, the son of F. J. C., a famous doctor; studied in France and England, where he came into contact with the Pre-Raphaelites. In 1889 he was made an officer of the Legion of Honour. Though his earliest works are on religious subjects, he excelled in landscapes into which figures were introduced. Among his best pictures are 'The Flight into Egypt,' 1877; 'Hagar and Ishmael,' 1880; 'Souve-nir do 18te,' 1881; and 'Journée faite,' 1888.

Cazorla, a tn. of Jaen, Andalusia, Spain, 41 m. S.E. of Linares, on the northern slope of the Sierra C. It has numerous ancient remains and two

castles. Pop. 7936.

Cean-Bermudez, Juan Augustin (1749-1834), born at Gijon in the Asturias. He studied architecture and drawing, but not apparently with any great success, and, having a small pension from the government, he was enabled to devote himself entirely to his literary pursuits as the historian of Spanish art. His first publication was the Diccionario Hislorico de los mas ilustres Professores de torico de los mas illistres Projessores de las Bellos Artes en España, 6 vols. 8vo, 1800; and his others are; Descripcion Artislica de la Catedral de Sevilla, 1804; Descripcion del Hospital del Sangre, 1804; Carla sobre el Estilo, etc., de la Escuela Sevillana, 1819; and lastly the Nolicias de los Arquitectura en España Arquitectos y Arquitectura en España 4 vols. 4to, 1829, etc., a work founded upon materials collected by Eugenio He also published Llaguno. memoir of his friend Jovellanos.

Ceanothus, a genus of Rhamnacere. of which the species, natives of America, are cultivated as ornamental shrubs. C. Americanus, red root tain ranges. The chief products are or New Jersey tea, is a beautiful shrub sugar, copra, tobacco, and hemp. when in flower and dyes wool c fine strong nankin-cinnamon cole Several other species grow well in country and flourish in shrubberic

Ceara, a northern state of Brabounded N. and E. by the Atlantic, Rio Grande do Norte and Parahyba, S. by Pernambuco, and W. by Piauhy; lying partly on the great Brazilian plateau, its formation is that of ter-

Cazembe, or Kazembe, formerly a higher ground, cattle are raised and ral East Africa, some horses. The chief products are cotton, sugar, coffee, etc.; manicoba, or C. rubber, also grows there. The capital is Fortaleza, also called C. It became a province in 1822, under Don Pedro I., and has an area of 40,253 sq. m. Pop. 849,127, chiefly coloured races and their mixtures with whites.

Ceará Mirim, a tn. in Rio Grande do Norte, a northern prov. of Brazil. It takes its name from the river on which it is situated; it contains good pasture land, where cattle is raised, and manufactures cotton and sugar.

Pop. 18,000.

Cebes, of Thebes, a Greek philosopher, is the reputed author of the Pinaz, or Tabula. In the middle ages this book was very popular, and wastranslated into many languages, including Arabic. It professes to be an interpretation of an allegorical picture in a temple. Like Pilgrim's Progress it draws a picture of the snares and temptations of this life, and concludes that the true end of learning is to mould character. C. appears in Plato's Phado as an eager debater, C. appears in zealous in his search of the highest virtue. This C. was a disciple of However, although the Socrates. author of the book was inspired by the Platonic theories of pre-existence and education, modern criticism now assigns the Tabula to some unknown writer of the 2nd century A.D.

Cebidee, a large family of Primates which is divided into four sub-families, represented by the howling monkeys, sakis, teetees, and Capuchin monkeys. They inhabit trees of the Neotropical region and several fossil

forms have been discovered.

Cebrionites, a genus of coleopterous insects of the family Malacodermide to which the glow-worms belong. They are moderate-sized beetles with soft skins, and are often found on plants in marshy places; the larve are carnivorous. Cebrio gigas is common in France.

Cebu, island, Philippines; area 2000 sq. m. It is intersected by fine mountain ranges. The chief products are

The island continues under the U.S.A. the prosperity it enjoyed under Spanish rule. The first Spanish settlement was in 1565. Pop. 600,000. The capital town, Cebu, is situated on the races cut up by watercourses and E. coast, N. of the centre. It is a port high hills (2400 ft.); the climate is of entry and a municipality; the port very hot and it is subject to severe is well protected from storms. The and destructive droughts. On the streets are wide and well laid out, and E. coast, N. of the centre. It is a port of entry and a municipality; the port is well protected from storms. The ished in the 18th century, contains a cross said to have been erected by Magellan, the great explorer, who was killed in the neighbouring island of Mactan. Pop. of C., town, 18,330; municipality, 31,000 (including Mabolo, \$500, and El Pardo, 6500).

Cebus, a genus of monkeys typical of the family Cebide, which belongs to S. America. The species have a well-developed thumb, a hairy prehensile tail, and thirty-six teeth. They include the Capuchin monkeys (g.r.), and are common in Britain as the companions of hurdy-gurdy

players.

Ceccano, a tn. of prov. Rome, Italy. on R. Sacco, 5 m. S. of Frosinone.

Pop. 6728.

Cecchi, Antonio (1849-96), born at time pursuing his

the coast. He wro .

travel. Cech, Systopluk (b. 1846), born at Vaclar z Michaloric. Leselinsky Korar (The Smith of Lesetin), and

good roads traverse the surrounding larvæ are small maggots which live country. C. is an episcopal see, and on vegetable or animal substance, the bishop's palace is famous for its and frequently produce galls on internal decoration. The Augustinian plants. C. destructor, the Hessian fig. church possesses the miraculous imof N. America, is well-known as a age of Santo Nino. The leper hospital was removed in 1906 to the wheat fly, has a larva which feeds island of Culion. The cathedral, finon the pollen of wheat and the car consequently produces no grain; C. salicina is common in France on willows.

Cecil. Lord (Edgar Algernon) Robert (b.1864), third son of the third Marquess of Salisbury, became K.C. in 1899, a member of the general council of the bar, and a prominent member of the Conservative party. He married Lady Eleanor Lambton. daughter of the Earl of Durham. was M.P. for Marylebone, 1906, but resigned his candidature, 1910. on account of Tariff Reform. He stood for Blackburn as a Unionist Free Trader, but was defeated. In 1911 (by-election) he was elected Unionist member for the Hitchin

division of Hertfordshire.

Cecil, Lord Edward Herbert (b. 1867), Pesaro in Italy. He was a great fourth son of the third Marquess of traveller and explorer, and took part Salisbury; entered the army, in the in the Varouis Antiport's expedition. traveller and explorer, and took part in the Marquis Antinori's expedition in Abyssinia (1876), being responsible for their route from Zeila to Shoa. Two rears later he went on an expedition to explore the Galla country, taking with him Chiarini, but they were captured and imprisoned. C. was set free in 1880, his companion having succumbed during the confinement. He was next sent on a mission to Massowah by the Italian government and succeeded in conjugate the pecial mission. From 1899-and was present at the battles of a mission to Massowah by the Italian government and succeeded in conjugate the special mission. From 1899-and was present at the battles of a fixed mission to Massowah by the Italian government and succeeded in conjugate the special mission. From 1899-and was present at the battles of a fixed mission to Massowah by the Italian government and succeeded in conjugate the sultan of Zanzibar and Omdurman. From 1899-and was present at the battles of a fixed mission to Massowah by the Italian government and succeeded in conjugate the sultan of Zanzibar and Omdurman. From 1899-and was present at the battles of a fixed mission to Massowah by the Italian government and succeeded in conjugate the sultan of Zanzibar and Omdurman. From 1899-and was present at the battles of a fixed mission to Massowah by the Italian government and succeeded in conjugate the sultan of Zanzibar and Omdurman. From 1899-and was present at the battles of a fixed mission to Massowah by the Italian government and succeeded in conjugate the sultan of Zanzibar and Omdurman. From 1899-and was present at the battles of a fixed mission to cretary for War to the

government, and is now

Under-Secretary for Finance.

Cecil, Lord Hugh Richard Heath-Ostredec, in Bohemia. He is one of cote (b. 1869), fifth son of the third the best known poets of Bohemia. Marquess of Salisbury, educated at the best known poets of bonefina. Managers of canson of this poems, inspired by national en. Eton and University College, Oxford the form, have the first being his father, he became a prominent of the first being his father, he became a prominent of the first being his father, he became a prominent of the first being his father, he became a prominent of the first begins are figure in the House of Commons as Faclar a Michaloric. Lessinshy Conservative member for Greenwich, 1895-1895, first as a supporter of Mr. Korar (The Smith of Lesetin), and 1895-1905, first as a supporter of Mr. Besne otroka (The Songs of a Slave). Ballour's Education Act, 1904, and He is also well known as the editor of later as one of the leaders of the the paper Kréw, which he took over Unionist Free Traders in opposition in 1879; and as a novelist, his wit and to Mr. Chamberlain's policy of Tariff satire making him extremely popular Reform. He was defeated in a three-with his readers. His best known cornered election for Greenwich, 1906, novels are Poridky, Arabesky a and was returned unopposed for Humoresky, 1878-80, and The Candi-Oxford University, 1910. He is an date for Immortality, 1884. dule for immortality, 1884. The canai-dule for immortality, 1884. The special genus of carnest and eloquent speaker, one of the family of dipterous insects known as Cecidomyildæ, the species of which are characterised by being minute feeling in the House of Commons, and fracile, with longish antenne furnished with whorls of hair. The

Cecil, John (1558-1626), an English Rubens, and Domenichino. priest and political agent, born at Worcester; educated at Oxford. Rheims, and Rome, where he became secretary to Cardinal Allen. He later went to Spain, and was employed by Father Parsons in various treasonable missions between Spain and England. He also acted as a spy for Burghley and Sir Robert Cecil. In 1594 he went to Spain to ask the aid of Philip for the Scottish Catholics, and acted with great success on numerous politicalreligious missions to France and Rome.

Cecil, Robert, Earl of Salisbury (1563?-1612), statesman. succeeded his father, Lord Burghley, as Secretary of State (1596-1608). He was one of the commissioners who tried Essex leaving Ireland without permission (1600). James I. rewarded C., who had helped him to the crown, by the gift of an earldom, but wanting C.'s estate at Theobalds for himself, obliged him to take Hatfield in exchange. The 'crook-backed' earl, as he was called, was an excellent

speaker.

Cecil, William, Baron Burleigh (1520-98), an English statesman, born Baron Burleigh at Bourne, Lincolnshire; studied at Cambridge and Gray's Inn. In 1547 he became 'custos brevium,' and a few months after Master of Requests; in 1548 secretary to Lord Protector Somerset; in 1550 Secretary of State; and in 1551 was knighted. He retired from office during Mary's reign, but was again made Secretary of State on the accession of Elizabeth in 1558. From that time till his death he continued the chief minister of the realm. being notable for his sagacity and Burleigh in 1571 and Lord High Treasurer in 1572.

Cecilia, Saint, in the Catholic Church the patron saint of the blind and of music. Tradition credits her with having been a blind Roman maiden who was martyred in the time of Alexander Severus (230), but research corroborates opinion of Fortunatus, Bishop of opinion of Fortunatus, Bisnop of Poitiers (d. 600), that she lived in Sicily and was put to death by Marcus Aurelius about 176 A.D. There is a church in the Trastevere in Rome dedicated to her. Her festival falls on Nov. 22, and was a musical calculation of always a musical celebration on account of her supposed love of music. Many English poets have composed odes to her, the best known being that of Dryden, set to music by Handel in 1736 and by Sir Hubert Parry in 1889. She has been made in 1889. Cedar-bird, or Ampelis curolinensis

Feb. 11 is the festival of another St. Cecilia who suffered martyrdom in Africa under Diocletian (303-4).

Cecropia, a genus of tropical American plants of the order Moraceæ. The wood is very light, and ignites readily by friction: the fruit resembles a raspherry and has an agree flavour; the bark is fibrous. flavour; the bark is fibrous. C. pellata, the trumpet-tree or snake-wood, is a native of W. Indies and S. America, and the stems are made into trumpets by the Indians. It is noted as an example of myrmecophily in which ants live in the hollow stems, obtain food from the tree, and guard it against the ravages of leaf-cutting

Cecrops, in Greek mythology, the traditional first king of Attica, and according to Pausanias, the founder of its future political life. He divided the people into twelve communities, and instituted the laws of property and marriage; he abolished the sacrifice of blood, and was the legendary giver of the olive-tree to Attica. His tomb was in the Erechtheum at

Athens.

Cedar, or Cedrus, a genus of Coniferæ which contains three species, C. Libani, C. of Lebanon, C. atlantica, the silver or Mt. Atlas C. of Algeria, and C. deodara, the deodar fountain-tree of India. These species, which are probably only varieties of a former plant, agree in having a fragrant, durable, light red wood which is used in building and cabinetmaking. They are evergreen shrubs with needle-shaped persistent leaves, have wide-spreading branches, thick trunks, and the seeds take two to three years to ripen. They are culti-vated in Britain on account of their handsome appearance, and in India they are thought to be sacred, and are planted near temples. The resin which exudes from the trunks wasformerly used in embalming, and an oil was prepared from it. The an oil was prepared from it. The name of C. is given to about fifty other trees, especially to several of the genera Cedrela, Chamæcyparis, Cupressus, Juniperus, and Thuja. The bastard C. of Jamaica is Guazuma tomentosa, and the white-wood C. is Tecoma Leucoxylon.

Cedarberg, or Cedar Mountains, a mountain range in the N.W. of Cape

Parry in 1889. She has been made a passeriform bird common to N. famous in literature by Chaucer's America, and is closely related to the Seconde Nonne's Tale, and imwaxwing. It is a songless bird, gremortalised on canvas by Raphael, garious in habit, swift of flight, and

the Shenandoah R., 3 m. E. of Strasburg. Near it the Confederates, under

Early, were defeated by the Federals, under Sheridan, on Oct. 19, 1864.
Cedar Falls, a city of Black Hawk Co., Iowa, U.S.A., 60 m. N.W. of Cedar Rapids on the Cedar R., and 93 m. N. of Dubuque. It has large manufs. of lumber, furniture, flour, etc., for which water-power is utilised. Pop. 5400.

Cedar Gum, a resin obtained from Callitris arborea used in medicine and in making varnish. It had a fragrant odour, and in appearance is

vellow and transparent.

Cedar Oil, which is an essential oil frequently used in mounting sections, is obtained from Juniperus Virginiana. This tree, although known as the American red-cedar or pencil-

cedar, is not a true cedar.

Cedar Rapids, a city, Linn co., Iowa, U.S.A., on Cedar R., 63 m. S.W. of Dubuque, and on several co., The water-power of the railways. rapids is utilised in the manuf. of machinery, carriages, tools, cigars, textiles, etc., and in pork-packing, textiles, etc., and impork-packing, stewing, and railway industries. It is the seat of Coe College, founded 1881. Pop. 32,811.

Cedar Resin, the name given to the codation of the control of the control

exudation of cedar-trees and allied species of Conifere. It was at one It was at one

time employed in embalming

at Gothenburg. From been engaged on the nev

His works include Om Erikskrönikan, 1899 -1885-91; Ōт Om Sven-

(2nd ed.); skanand Rylmens trollmakt, 1906; and he has edited the old Norse texts, Fornsögur Sudrlanda, 1884:

Altnordische Sagabibliothek, 1891. of Cedrela, a genus tropical

Meliacere, many of the species of which yield a compact, scented, and heautifully-veined timber. C. toona, the bastard-cedar, toon or cedar-wood of S. India, has a bark which is a powerful astringent. C. australis is the Australian red cedar, and C. odorata, the West Indian cedar, is made into cigar-boxes.

Cedriret, or Corulignone, a volatile solid occurring in the form of dark early became blue needles when in the crystalline for Slavonic l

It was discovered by has a voracious appetite, feeding on condition. It was discovered by berries, fruits, and insects. It is Reichenbach who obtained it from Codar Creek, a river of Northern Virginia, U.S.A., rising in Shenandoah co., and flowing N.E. to enter the Shenandoah R. 3 m E of Start

on the N. coast, at the foot of a mountain, 36 m. S.E. of Palermo. It has a fine Norman cathedral, and remains of Norman fortifications, while traces remain of the ancient Greek town of Cephalædium. There are rich marble quarries near. Sardine fishing is an important industry. Pop. 13,000.

Ceglie, a tn. of Lecce, Apulia, Italy, 27 m. N. of Brindisi. Pop. 16,867. Cehegin, tn. of Murcia, Spain, 30 m. N.W. of Lorca. The ancient Legisa. Cereals, wine, hemp, honey, and

esparto grass are among its products, and it manufs, paper. There are rich quarries of black marble near. Pop.

12,000.

Ceiling, an architectural or building term for the upper interior covering of a room, hall, church, or other building. The derivation has been nuch disputed. Lat. celare, to carve, celare, to hide, have been suggested, but the most probable source is French ciel, Latin, cælum, sky. The term ceiling should not be confused with 'roof,' the C. being 'the undercovering of a roof or floor concealing the timbers' (Murray, New English Dictionary); thus such magnificent timber work as may be seen in Westtimber work as may be seen in West-minster Hall or Middle Temple Hall or the stone vaulting of cathedrals, etc., should not be treated as Cs. In the 14th century the construction of time employed in empairing.

Cederschiöld, Gustav J. Kristofer Cs. proper developed, so that what
(b. 1849), a Swedish philologist, born was merely the under side of the
at Stockholm. In 1893 he became room above became an ornamental
room below. French s. of the 16th century

in plaster, gilded, and to be issued by the Swedish Academy. painted. In 1520 Raphael executed His works include Om Erikskrönikan, for the Vatican a reproduction of a C. from the Golden House of Nero, and the classical mouldings have been a favourite source of decorative design among architects, notably to the brothers Adam at the close of the 18th century. In modern times a return to the early timbered Cs., where the constructional beams remain visible, has become popular. The wooden C. of St. Albans Cathedral is one of the earliest examples of Among other Italian C. at

Haddon Hall. moreland: the Celakovsky, 1

1852), Bohemi

His Slowanské národní písní (1822-27) belonging to the Dutch in the East was a collection of Slavonic national Indies. It is situated E. of Borneo songs, and he wrote a book on The philosophy of the Slavonic nation in proverbs, besides translating a number of Russian national songs into the 'kindred Bohemian.' Deprived of his editorship of the leading newspaper of Prague, and of his professorship at the university because of his criticism of the severity of Emperor Nicholas in quelling the Polish insurrections, he accepted a professorship at Breslau in 1842, and in 1849 came home to his beloved Prague to die, his calamities having embittered and warped his nature. His Ruze stolista (hundredleaved rose) is considered his finest poem.

Celandine, the name applied to several diverse plants. The genus Bocconia containing the W. Indian C., and the genus Chelidonium containing the common C., are both members of the order Papaveraceæ, while Ranunculus, to which the lesser C. belongs, is the typical genus of Ranunculaceæ. *C. majus*, the com-mon or greater C., occurs in Britain; the flowers are small, have four yellow petals, and are in simple umbels. petals, and are in simple unlocals.

R. ficaria, the lesser C., figwort, or pilewort, resembles a buttercup, and has nine yellow petals; it was of this plant that Wordsworth sang.

Celano, Thomas (ft. 1250), musical composer, belonged to the order of Minor Friars. It is cortain that he

splendidly dramatic wrote the musical setting to Dies iræ, dies illa, and some believe him to be the author

of the words as well.

Celano, FUCINO, Lake of, see

LAKE OF.

Celastraceæ, an order of dicotyledonous plants containing about forty genera in tropical and temperate The species are trees or countries. shrubs, with simple, stipulate, often leathery leaves, with small, usually hermaphrodite flowers. The calyx consists of four or five free or united sepals, the corolla of four or five petals, the stamens, four or five in number, and the carpels, two to five in number, are inserted on a flattened disc. There are usually two ovules in each loculus of the ovary, and the seeds have usually a bright aril; the The chief genus is fruit varies. Euonymus, the spindle-tree, the wood of v

m. Gue 650 sad.

and separated from that island by the Strait of Macassar. In shape it is a long narrow strip (

to S., with thr running E., tively. Each extension is separated by gulfs named Tomini, Tomori, and Boni. Minahassa, the name given to the N.E. extremity of the N. arm, is of volcanic origin; it is 7500 ft. high, and terminates in Mt. Keina. In the S., in Macassar, the elevation runs up to 10,070 ft. in Bobokaraeng, and 10,000 ft. in Bonthaeng. One of the characteristics of this island is the number of lakes, most of them large, and situated at a considerable height above sea-level. Lake Posso, the central lake, is 1640 ft. above sealevel, and Lake Tondano in Mina-hassa 2000 ft. Sadang is the name given to the chief river, which is in the W. of the island, but it is of very little use for navigation. A N. wind prevails most of the time, and that, together with the sea breezes and rain, tends to temper the great heat, and thus make the climate an exceedingly healthy one. Gold, sulphur and coal (lignite) are all found in the C. No large carnivorous animals are found here, nor has it the elephant, rhinoceros, or tapir, but the fauna is a specialised one. Reptiles are very numerous. The chief exports are coffee, trepay, nutmegs, copra, copal, and tobacco, and the trade is mainly done from the ports Vlaardingen or Macassar, and Kema in Minahassa. The Dutch built factories on the island in the latter half of the 17th century, and have retained possession ever since. The inhabitants are mostly Malays. Total area about 70,000 sq. m. Pop. said to be under 2,000,000. Celebes Sea, an arm of the Pacific Ocean, surrounded by the Sulu Islands and the Mindanao on the N.,

Celery, or Apium graveolens, a European species of Umbelliferæ found wild in the marshes of England near the sea. In its wild state the plant is poisonous, but when cultivated the blanched leaf-stalks are valuable as purifiers of the blood, and may be eaten raw with cheese and salt, stewed as a vegetable, or made into soup. The form known as celariac is grown on the continent on account of the turnip-like flavour of the roots, and it is used chiefly in made dishes or in sauces. In the cultivation of C. the plants are raised from seeds sown in a light, rich, welldrained soil from the end of March to Kildare, Ireland. Pop. less than 1000. the beginning of May. When they are Celebes, an island of peculiar shape, a few inches high they are trans-

the Celebes on the S., and Borneo on the W.

made, and the plants are placed in a row in a trench and gradually earthed up until they receive no light. The soil in this case should be very rich, well fertilised, and well drained, and the goodness of the C. is dependent on its rapid growth and the solid stalk of

the leaves. Céleste, Madame (1815-82), French dancer and actress, born in Paris. As a child she learnt dancing at the opera ballet, and when only fifteen was offered an engagement in New York, where she made her first appearance at the Bowery Theatre. She then came to England and played Fenella in Masaniello at Liverpool and in London, 1831. In 1834, she returned to the United States where she created a great sensation; according to the story President Jackson intro-duced her to his cabinet. She re-turned to London in 1837, gaye up dancing and appeared at Drury Lane. Her best part was Miami in Green Bushes by Buckstone. She was manager of the Adelphi Theatre with Ben Webster, and subsequently of the Lyceum. She retired in 1870 and died in Paris.

Celesti, Andrea (1637-1706), a painter of the Venetian school, born and died at Venice. C.'s works are very attractive, especially in colouring, in which he resembles Paul Andrea (1637-1706), Veronese. He painted landscape, history, sacred and profane, and genre; cabinet pictures, gallery pic-tures, and altar-pieces. Five of his best pictures are in the gallery of Dresden, one of which is the sack of a city by night; it is the largest picture

in the collection, being very nearly 23 ft. long by 13 ft. high.

Celestina, La, a secondary title popularly given to the Comedia de Caliste y Melibea, a Spanish novel of sixteen to twenty-one acts written in dialogue and usually dated at 1483 or 1497. The author is unknown, though it is highly probable that he was a certain Jew, Fernando de Rojas. Although certain resemblances may be traced between the characters in the work of Juan Ruiz, an earlier writer, it is nevertheless the daring and eminently successful originality that impresses the reader of L. C. Not only does the novel contain types of all contemporary classes. the best drawn of whom are C., Melibea, and Calisto, but it is remarkable also for its intense tragic power. It was rapidly translated into French. Italian, Latin, and English, by Mabbe in 1631.

Celestine is the name of five popes. C. I. (422-432) had a peaceful rule.

planted into another bed until they lie was the first to take an active attain a height of six or seven inches, interest in the churches of Britain upon which a final transplantation is and Ireland. C. II. (1143-44) removed the interdict which his predecessor had put upon King Louis VII. of France. The policy of C. III. (1191-98) was marred by hopeless indecision. After he had crowned indecision. After he had crowned Henry VI. Emperor of Germany, he let him do as he liked, nor had he the courage to use his weapon, the interdict, against the recalcitrant Prince John of England. Pope C. IV. died before consecration (1241). The last pope of the name resigned the chair of St. Peter after five months (1294). and for this great refusal figures in

Dante's Inferno. See also CELESTINES.
Celestine, or Celestite, a mineral
consisting of strontium sulphate,
SrSO. It occurs as large well-developed orthorhombic crystals and as fibrous amorphous masses; it frequently has a light blue colour, quenty has a light blue colour, whence the name C. The crystals are isomorphous with barytes, but are not so abundant; they possess a hardness of 3, and a specific gravity of 3.9. Both forms are found in Triassic rocks; near Bristol it has been found that the strontium forming part of the mineral has been taken up by plants; in Gloucestershire the mineral is put to industrial uses. Other localities are Sicily (a colourless variety), Hungary, Jena (fibrous), Strontian Island in Lake Erie, and Frankstown, Pennsylvania (fibrous), It is also a constituent of some mineral waters. Celestite is used in the manufacture of other compounds of stron-tium, such as the hydrate, which is employed in the refining of beet-sugar, and the nitrate, which produces the 'red fire' used in theatres and pyrotechnic displays.

Celestines were a religious order founded about 1256 by Peter di Morrone, afterwards Pope Celestine Though the C. are counted a branch of the Benedictines, their form of government was much more akin to that of such mendicant orders as the Franciscans. Peter tried with ill success to persuade both the Bene-dictine monks of Monte Cassino and the Franciscan spirituals to coalesce with his brotherhood. At one time there were many Celestine monas-teries in Italy, France, and the Netherlands, but the order is now practically extinct

Celeus, a king of Eleusis in Attica. extended a friendly hospitality to Demeter, when she was seeking for her daughter Persenhone. Demeter found solace in nursing Demophoon. C.'s son, but was prevented by the child's mother from making him immortal by holding him over the fire.

Celibacy, a term now generally used

abstinence from marriage (Lat.) collebs, unmarried), but formally in-cluding the state of a widow or Considered generally, medical opinion holds that the chances of life are greater for married than for single persons, and, from the point of view of the interests of the state, it is obvious that widespread habits of permanent C. or of delay in marriage to a late period of life, must be disastrous. It is thus that C. has been frequently discouraged by legislation. In 9 a.D. (Lex Julia et Papia Papæa) the Emperor Augustus decreed that celibates could not inherit unless related to the deceased in the sixth degree, limitations were placed on inheritances from husband to wife and vice versa, if the union was childless, and preference was also given to candidates for office according to the number of their children. Taxation of bachelors has at times been enforced and still more often proposed. It is, however, the enforcement of C. upon the clergy or upon the adherents of particular religions or upon special classes of those adherents that C. is of particular historic interest. To trace that history throughout the ages would be to write the history of as-ceticism; it must suffice to call attention to the self-mutilated priests of Cybele, the Galli, to the Roman vestal virgins, and to the C. of the ancient Buddhist monasteries, and to confine this article to the C. of the secular clergy in the Christian church. The C. of the monastic orders is a matter of vow on entering the order. Hebrew religion made the priesthood hereditary from father to son and the C. of the Essenes sect was a foreign idea due to contact with Hellenism and the eastern mystics. St. Paul, speaking on the subject, asserts that a missionary can work more freely without the burden of a wife and children, but reserves for the apostles the right to take a wife with them in their journeys. It has been freely admitted since the Renaissance by the learned churchmen that C. was no rule of the apostolic church, and that view has not been rejected by the latest Catholic authority. Clerical C. grew slowly, its history can be traced first merely as a custom than as a discipline. The first clear rules come from the 4th century, where bishops and priests were not allowed to marry, but might retain their wives if married before ordination. The lesser orders, deacons, etc., might marry only one wife, who must not be a widow or have been a concubine. Gradually, as the clergy became ad-

in the sense of a state of complete; revenues must be kept for the church and not be used to support the families of priests and more stringent rules were put in force. The synod of Elvira, a local Spanish synod, 305 A.D., was the first to place the ban on the marriage of the higher clergy; at the council of Nicæa, 325, a law to enforce C. on all the clergy was rejected. Paphnutius, a bishop of Egypt, warned the council against imposing so heavy a yoke, and defended the sanctity of marriage. The decretal of Pope Siricius. 385, commanded C. on bishops, priests, and deacons, and the reparation from their wives on those already married. Popes Leo (461), and Gregory the Great (604), extended the rule to subdeacons. The struggle for the enforcement of C. continued; It was constantly resisted and frequently, openly, and freely disobeyed. Mar-riage of priests was still recognised sporadically, and where this was not the case, the practice of having concubines, subintroductæ, was often followed. Pope Gregory VII., Hildebrand, 1073, took such strong measures that he is often regarded as the author of the rule. Marriages of priests were declared null and void, the wives were treated as concubines, and heavy punishments inflicted on them; no priest who broke the rule could perform the Mass, and the lay people were warned against going to such priests. That the rule was not submitted to without a long struggle is shown that in 1450 John de la Bere. Bishop of St. David's, refused to enforce the rule among his clergy, as he derived 400 marks yearly from their women. It was a violent subject of dispute at the Reformation, and finally was one of the most marked lines of difference between the Roman and the Protestant churches. At the Revolution in France, by the constitution of 1791, all restrictions on the marriage of priests were abolished. but few pricess took advantage of it. It remains to add that in the Orthodox Greek church, priests usually marry, before taking priests' orders, but may not re-marry; bishops must not continue their married life, but are usually monks. See H. C. Lea, History of Sacerdotal Celibacy, 3rd ed. 1907. Cell, in biology, the living unit of

which all living forms are composed. The plant-cell consists of a microscopical mass of protoplasm enclosed within a wall of a starch-like sub-stance called cellulose. The animalstance caused critinose. I he animateell usually possesses no obvious boundary wall, but is capable of changing its shape in many ways. ministrators of rich endowments, the Some animals and plants consist of feeling grew stronger that church one C. only, such are the protozoa among animals and the bacteria stance, performing all the functions among plants. Most living forms are of movement, growth, multicellular, but the history of every organism can be traced back to a single C. A single C. is the unit of life, and is capable of assimilating food material and growing, of changing its structure to adapt itself to particular conditions, and of reproducing other Cs. with which it may or may not retain some connection. Thus every C. owes its origin to some pre-existent C., it develops, fulfils its functions, and is at length destroyed, or divides into other Cs. On this theory, all that is needed to account for the origin of life is the existence of a single C., and knowledge of the structure and composition of the living C. is too inadequate to establish any theory of the particular chemical and physical conditions which may have brought

the original C. into existence.

Structure.—The animal C. possesses a body and a nucleus. The body consists of protoplasm, an organic substance of complex constitution, containing the elements carbon, hydro-gen, nitrogen, and oxygen. It is a gen, nitrogen, and oxygen. colourless viscous fluid, insoluble in water, and contains mingled with it certain substances which are to be assimilated as food and waste products which will eventually be climinated: these substances are called metaplasm or paraplasm, and are not usually looked upon as part of the cell proper. The protoplasm of the cell-body is called cytoplasm, and intermixed with its substance it is possible to distinguish an elastic network-the cyto-reliculum, the meshes of which are filled with a clear, semifluid substance - cyto-lymph. . The nucleus is a spherical portion embedded in the cell-body, and enveloped by a nuclear membrane; it contains nucleoli. The nucleus consists of a modified protoplasm called karyoplasm, which presents certain appears, which breaks up into a the structure o aspects of cytoplasm, containing a reti consisting of linin fibres, and a

darkly - staining substance chromatin. Many Cs. contain in nucleus to addition the certain rounded bodies called centrosomes, which become very distinct as reproduction approaches and probably play an important part in that

process.

Differentiation .- Cells possess the power of developing certain of their qualities which enable them to per-

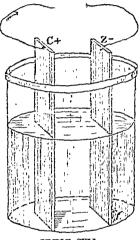
digestion, excretion, and reproduction by itself. In multicellular animals, it is necessary that there should be some division of labour, that is, that the Cs. should become different from each other in function. There occurs, therefore, different degrees of differentlation, some become closely adherent to each other, forming the different kinds of epithelial tissues, some become altered in shape to form muscular or nerve fibres, and so on. Certain of the epithelial Cs. develop cilia or numbers of soft projections which are continually lashing to and fro; this produces a movement as in the mucus of the windpipe and airpassages, which gradually works up the throat towards the stomach, carrying with it the dust which might otherwise injure the lung. Cortain Cs. specialise, as it were, in secretory function, mucus-secreting as the epithelial Cs., the fat Cs., and those which develop into ova. Others take for their special function the reception or communication of stimuli, as the nerve Cs. and nerve fibres. Nerve-Cs. are masses of protoplasm from which certain processes radiate, and nerve fibres may be looked upon as elongated nerve-Cs. The actual mechanism or chemical action by which stimuli are

transferred from C. to C. is not known. Reproduction .- Cells may reproduce by direct division, amilosis, or indirect division, mitosis or karyokinesis. In the direct form of division the Cs. are medially constricted and ultimately separate. The indirect form is a more complex process. centrosome and the area in which it lies-the attraction sphere-divide into two parts which travel to opposite The nuclear parts of the nucleus. reticulum and membrane disappear, and a convoluted cord of chromatin

> 3, or chromosomes. entrosomes subse-

from each other called and travel to opposite poles of the nucleus; the chromosomes separate to the opposite poles, forming the daughter nuclei. See E. B. Wilson, daughter nuclei.
The Cell in Development Inheritance.

Voltaic, an apparatus generating electricity by chemical action. Prior to the experiments of the Italian physicist Volta, electricity was only known in a static form: that form their duties in the whole is, charges might be stored in Leyden jars or other condensers, and could be utilised to obtain an instantaneous effect. Volta showed that by placing two dissimilar metals in contact, a mild but continuous disengagement of electricity occurs; he attributed the generation of the electricity to the and thus a continuous current is mere contact of the two metals, but produced. The negative plate is chemical action was promoted by the fully affected chemically been demonstrated that most chemigether due to chemical action is still a matter of controversy. Of all chemical actions, the most productive of electricity are those occurring between liquids and metals. In general it may be said that when a liquid acts positively charged and the metal negatively charged. A simple form of



SIMPLE CELL

C. may be arranged by partially immersing a plate of zinc and a plate of copper in dilute sulphuric acid. Very little chemical action is at first apparent except slow generation of hydrogen at the zine plate. If, however, the plates are connected by a strip of metal laid across the top, a brisk chemical action is set up, but the hydrogen comes off at the copper plate: and if convenient arrangements are cylinder stands in the solution, and made, the passage of a current of elec-within this a thin porous cylinder of tricity through the connecting strip or wire can be demonstrated. happens is that negative electricity is happens is that he act and positive produced in the zinc, and positive electricity flows through the wire from the copper to produce equilibrium; the copper to produce equilibrium; the copper by the copper supplied to the copper tinuous, so is there always a difference the sulphate is thus constantly being of potential between the two plates, used up, hence the necessity for extra

subsequent inquirers maintained that always that which is the more powerby perspiration of the hand. It has since liquid; thus copper is positive in a couple consisting of zinc and copper. cal actions are accompanied by elec- but negative in a couple consisting of trical disturbances, but whether such copper and carl on. Such a C. as has effects as Volta exhibited are alto- been described has many disadvan-Firstly, the acid gradually tages. weakens owing to the constant formation of zinc sulphate, and therefore the action becomes feebler. Secondly, zinc is often impure, and local chemical actions are set up by reason of the upon a metal, the liquid becomes impurities; other small currents are produced, with a disturbing effect on the main current. In the third place. the hydrogen adheres to the copper plate and not only prevents the per-fect contact of metal and liquid, but reacts with the dissolved zinc sulphate, and tends to deposit a layer of zinc upon the copper, when there would result, not two dissimilar, but two similar, plates of metal. The last effect is called polarisation, and may be rectified by exposing the copper plate to the air, or by sending a current from another battery through in the reverse direction, or by simple Voltaic Cs. mechanical brushing. have another disadvantage where any great quantity of current is required; the cost of material effectively prevents them competing with the more economical dynamo system. there are light services where they are found convenient, such as the ringing of bells, experiments in the laboratory, lighting of moderate power (as in electric torches and the like), etc. They are then either used singly. when the wire from the more active plate becomes the negative terminal, and that from the less active the positive terminal; or in batteries, where all the negative poles may be linked together into one, and the positive poles similarly arranged, or the negative pole of one joined to the positive pole of the next, and so on, the free wires acting as the terminals. The following are the Cs. most frequently met with:

Daniell's cell.—A glass vessel contains a solution of copper sulphate, kept saturated by crystals placed on an annular shelf below the surface of A perforated copper the solution. cylinder stands in the solution, and this contains

in which is The hydro-

for some hours.

Daniell's C. in containing nitric acid surface. instead of copper sulphate, and platinum instead of copper. It consists of a flat rectangular vessel, partly filled with sulphuric acid; a U-shaped zinc plate; a porous pot containing strong nitric acid and a thin platinum foil. The disengaged hydrogen in this C. decomposes the nitric acid, giving off nitrous fumes. A Grove's C. has an E.M.F. of about 1.96.

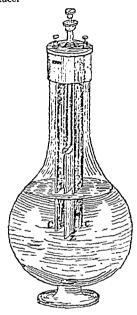
Bunsen's cell.—This resembles a Grove's C. in principle, the expensive platinum foil being replaced by a rod of gas-carbon. The C. consists of a glass vessel containing dilute sulphuric acid; within is a cylinder of amalgamated zinc: within that a porous vessel containing nitric acid and a rod of carbon. When arranged in battery, clamps have to be used to engage the carbon rods to the succeeding zinc Such batteries are much cylinders. used on the Continent for experimental work. E.M.F. 1.91.



Bunsen's celi

Smee's cell.—This is a one-fluid C. in which polarisation is prevented by mechanical means. The C. consists of a sheet of platinum or platinised only the top of the carbon rod prosilver, placed between two plates of jecting, and occupies the middle of the zinc, the whole being immersed in glass vessel containing the sal-am-

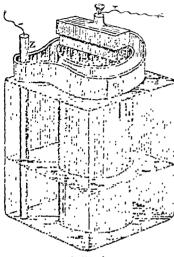
crystals. A Daniell's C. has an E.M.F. dilute sulphuric acid. The platinum of about 1.08, and remains constant is covered with finely-divided platinum, from which the hydrogen rises Grore's cell .- This differs from a more readily than from a smooth



BICHROMATE CELL

Bichromate cell .- This consists of a zinc plate which slides up and down between two carbon plates dipping into a mixture of potassium bichromate and sulphuric acid, or chromic acid and sulphuric acid. This solution rapidly acts on the zinc, so that the zinc plate is clamped above the surface of the liquid when the C. is not in use. The E.M.F. is about two volts, but falls off after a while; for short experiments where a moderately high power is required these Cs. are very uscful.

Leclanché cell.-This consists of a glass vessel about one-third full of a strong solution of sal ammoniac. The positive plate is a rod of zine placed in this liquid; the negative plate is a rod of earlion placed in a porous pot which is tightly packed with manganese peroxide mixed with earbon. The porous pot is sealed with pitch, only the top of the earbon rod promoniac solution. The C. quickly be- with a copper wire. Upon the disc is comes polarised, but with rest recovers a layer of sawdust, on which rests a of itself, and it is therefore well zinc cylinder; the whole is filled with



LECLANCHÉ CELL

Dry cells are usually Cs. of the Leclanché type, in which the liquid sal-ammoniac is replaced by a paste or jelly consisting of sal-ammoniac and some absorbent material. are very convenient and portable, and are well adapted for pocket electric lamps carried about on the person.

Latimer Clark's cell.—One form of this C. consists of two glass tubes joining to form a common trunk; the bottom ends are closed with a plati-num wire sealed in each, and the common neck is closed with a groundglass stopper carrying a thermometer. In one branch is mercury covered by a paste formed by mixing mercurous sulphate, mercury and zine sulphate, and in the other is an amalgam of zinc Crystals of zinc suland mercury. phate are placed in both bulbs, and the whole vessel is filled with zinc The C. is not sulphate solution. economical as regards voltage, but it is remarkably constant in electromotive force, and is therefore used as a standard C., having superseded the Daniell's C. for that purpose.

Minotto's cell consists of an earthenware vessel at the bottom of which is a layer of powdered copper sulphate supporting a copper disc provided

adapted for such intermittent service the water, from which, however, the as the ringing of bells, etc. The C. is therefore a modification of a Daniell's C., the porous cylinder being dispensed with.

De la Rue and Muller's cell consists of a glass tube six inches long, containing half an ounce of silver chloride the remainder of the C. being filled with sal-ammoniac solution. tube is closed with a vulcanite stopner through which a zinc rod five inches long and a silver wire six inches The hydrogen generated long pass. reduces the chloride to silver, which denosited on the silver E.M.F. about 1.03 volt. The advantage of the C. is its compactness.

Cellaria, a genus of polyzoans in the group Flustrina, which is typified by the genus Flustra. In appearance it resembles a seawced, and it is com-

mon on British coasts. Cellarius, Christopher (1638-1707) (whose real surname was Keller), German classical scholar, student at the universities of Jena and Glessen. He had taught in four symnasia, including that of Weimar, before he became professor of history at the university of Halle in 1693. His many

hís Latin

Latinus, graphy, 1700, did much to raise the fallen prestige of classical studies. Other of his manuals were among the first authorities on the Samaritan

language.

Celle, a tn. in the Prussian prov. of Hanover, Germany, 23 m. N.E. of Hanover, on the Lehrte-Hamburg Railway. The town was founded in 1292, and from the 14th century until 1705 was the residence of the dukes of Lüneburg-C., a branch of the house of Brunswick. The ducal palace, which includes the court of appeal (oberlandesyericht), containing a fine library, is a Late Gothic building, commenced in 1485, but considerably added to at the end of the 17th cen-The town church contains the ducal burial vaults, and Sophia Dorothea, wife of George I. of England, is buried there, also Caroline Matilda, the divorced wife of Christian VII. of Denmark. Woollen yarn, tobacco, biscuits, umbrellas, etc., are manufactured. Pop. 21,400.

Cellier, Alfred (1844-91), an English musical composer. In company with Arthur Sullivan he was a chorister at the Chapel Royal, St. James. In 1862 he became organist at All Saints Church, Blackheath. He then went to Belfast as director of the Ulster Hall concerts and conductor of the Philharmonic Society. Returning to London, he was appointed organist at St. Albans, Holborn, but in 1871 he went to Manchester to conduct at the Princes Theatre. For the next eight years he conducted at Manchester and at London theatres, at the same time composing operas and operettas; of his earlier works The Sullan of Mocha was the most successful, but he achieved his greatest success in 1886 in Dorolly, a comic opera, the libretto being written by B. C. Stephenson. He owed a good deal to his friendship with Sir Arthur Sullivan, but his writing is remarkable for its delicacy and pleasing melody. He composed

Cellini, Benvenuto (1500-71), Italian artist, fortunately wrote his own life. It reads like the most extravagant of adventure tales. Born in Florence, he was expelled from his native city because of his implication in some civil broil. After living in Bologna, where he became an excellent flutist. he eventually arrived in Rome. Here he became court-musician to Pope Clement VII., made silver vessels of every description, and finally in 1527, according to his own account, actually killed with his o

settings to Gray's Elegy, and Long-

fellow's Masque of Pandora.

Bourbon who and later Prince of Orang

he had been pardoned for slaying his brother's murderer, he killed by brother's murderer, he killed by accident a rival goldsmith. But Paul attent a myar goldsmin. But Fall III. set him free in 1534 as he wanted some dies in the mint engraved. Later, being falsely accused of embezzling pontifical jewels, he was thrown into an oubliette of St. Amedo. The intercession of Cardinal d'Este alone saved him from death. His sciourn at the court of Francis I. was cut short by his murderous attack on the plaintiff in a lawsuit. Finally C. returned to Florence, where he executed his famous bronze 'Perseus with the Head of Medusa' (in the

the most typical and unforgetable monuments of the Italian Renaissance.' Of his many other works of art there have survived to this day the famous silver salt cellar of Francis I. (now at Vienna), a medallion of his patron, Clement VII., and some gold medals. As an artist he has perhaps been over-rated, for his knowledge of anatomy was small and his designs often weak. But his versatile genius, which made him at once a goldsmith, sculptor, and engraver, led him also to write, and to-day his fame largely rests on his unique and diverting auto-

biography. Mr. Symonds, who translated it into English, wrote that from its pages 'the Genius of the Renaissance, incarnate in a single personality, leans forth and speaks to us. Here the author narrates with a frankness that disarms the moralist the whole story of his amours, his passionate devotion to art, his shameless self-worship, and his curious traffic with devils and portents.

Cellular Plants, a botanical term to live it is a lowest forms of the live it is all ophyta and it is the live it is all ophyta and it is the live it is all ophyta and it is all are much more highly developed than

the lowest forms.

Cellular or Areolar Tissue, a loose connective tissue consisting of fibres running in all directions and forming meshes called areolas. There are two kinds of fibres: white fibres which are soluble in boiling water to form a solution of gelatin, and yellow elastic fibres, insoluble in hot water. In the spaces of this tissue are found lamellar cells, flattened cells usually attached to bundles of white fibres; plasma cells, not flattened; granular cells, packed with deeply-staining

nd leucocytes which have od capillaries.

. a diffuse inflammation tissue, caused by septic invasion. The tissue may regain its healthy condition if treated by rest otherwise hot fomentations, suppuration occurs which may endanger neighbouring structures. important variety is pelvic C. or para-metritis, in which there is inflamma-tion of the cellular tissue about the uterus. This condition may be consequent upon abortion or delivery following operations. It may be anterior. when, if the inflammation proceeds to an abscess, the pus is discharged into the bladder, vagina, or groin. Inflammation of the posterior tissues may cause fixation and torsion of the Loggia dei Lunzi, Florence), under uterus. Remote parametritis is characterised by abscesses appearing some distance from the seat of the disease. Pain should be treated by anodynes, and an effort should be made to reduce the inflammation by careful diet and hot counter-irritants. When an abscess is formed, it should be localised if possible, an incision made, and the pus drained off. After-treatment includes a prolonged period of rest.

Celluloid, Xylonite, or Pyroxylin

Plastic, an artificial colloid prepared from a mixture of nitrocellulose with camphor. It was first prepared by Parkes, of Birmingham, and Spill in England in 1856, but the improve-ments in the manufacture intro-duced by Hyatt. of Newark, New Jersey, revolutionised the industry C. has not yet been found with and made it predominantly Ameri, sufficient success to become a comby the leading British manufacturers, at ordinary working temperatures and the British Xylonite Company. The is plastic at 75° C. its hardness nitrocellulose is first made from sub- and elasticity at ordinary temperacomposed essentially cellulose, such as rags or, more particularly, tissue paper. Shreds or strips of the latter are steeped in a combined bath of sulphuric and nitric acids of such composition as not to produce the explosive gun cotton. Nitrocellulose is thus produced, and great pains are taken to extract the excess of acid, the presence of which produces deterioration in the final product. This is done by thorough washings, and the water either pressed out by hydraulic pressure or replaced by alcohol. Drying by heating would be too dangerous owing to explosion. The next process is to break up the cakes of nitrocellulose and add to it camphor dis-solved in ethyl alcohol in the proportions of two of nitrocellulose or pyroxylin, with one of camphor, and the whole thoroughly mixed up in a kneader. In some cases flake camphor turns blue when treated with sulsa added to the proxylin and the phuric acid and iodine. C. is remarkmixture in boxes sprinkled with able for its insolubility, and only an alcohol until it settles is dough. At the same tin

substances and a fixing are added, and the whole geneous. It is then rolled

geneous. It is then roned in heated rollers and hydraulic pressure machines, and a caid it is converted into glucose. It cake produced of the material control is well-known to us in a very pure talning a quantity of the liquid state as a solvent, which must be removed by and parc keeping the substance in heated freely in enters in but in man it is not nearly so easy of all is removed shrinking has occurred, and the substance i- ready for work-ing in various processes. C. is buff in colour, but may be bleached by means of bleaching powder or other bleaching agent, and can also be made transparent in various colours. It is coloured by mineral colours, while coal-tar dyes are employed for colouring the transparent varieties. In the latter there is more need of a stabiliser or fixing compound than in the other varieties since the generation of acid is more liable to cause deterioration. A substance is required that reacts with this acid to give products of reaction that will be harmless to the material, and it is found that coumpounds of urea serve this purpose very well. C. brought in contact with a flame burns more rapidly than paper, camphor distills off, and a good deal of free carbon is evolved. There is always a slight odour of camphor about it, except in the very best produced, especially Celsius, Anders (1701 - 44), a when it is scratched. Non-inflammable Swedish astronomer born at Upsala.

The name Xylouite is given to it mercial product. It is non-explosive of tures, together with it-invulnerability, have led to its wide application in articles of daily use. Thus, for knife handles, piano keys, combs. and mirror backs, it is universal, and its ease in working up have led to the imitation of such natural products as ivory, horn, and bone. Imitation marble is made by pressing together plates of differently coloured material. while imitation tortoiseshell can be and is much produced by pressure and heat on yellow plates between yellow coloured with brown.

Cellulose, an organic substance secreted by the protoplasm to form the primary cell-wall of all plants. but it is not essentially present in all successive layers of the cell-wall after thickening has taken place. It is a

as C.H.O.: ion is that it

digestion as it is in ruminating animals.

Celosia, a tropical and temperate genus of Amarantaceæ, cultivated in England on account of the curious inflorescence, which is crested and flattened, and gives the plants the popular name of cockscomb. This appearance is due to the monstrous condition of the floral axis which has now become a common characteristic of the plants through cultivation. C. cristata, the common cockscomb, and C. coccinea, both natives of the E. Indies, vary in height from 6 inches to 2 ft., and the colours from red to white.

Celsia, a genus of Scrophulariaceæ, known to Asia, Africa, and the Medi-The flowers are nearly terranean. regular, and there are only four stamens. C. orientalis and C. sublanala are the most noteworthy species.

He was professor of astronomy in the treatment of certain diseases. numerous observations of the aurora also wrote a treatise on surgery which borealis which he had made himself. mometer.

Celsius, Magnus (1621-79), Swedish land. He was a professor of mathe-scriptions.
matics and astronomy at Upsala, Celsus, P. Juventius, an Epicurean matics and astronomy at Upsala, where he discovered the Helsing

at Upsala.

Celsius, Olof (1670-1756), the son of Magnus C., born at Upsala in July. He held the post of professor of theology and Oriental languages at provost of the cathedral. He was a confuted this idea in his work, Confra great botanist, and made himself famous by his researches in connec-He was the patron and in-

structor of Linnæus.

members of the Swedish Academy. He wrote among other works a history of Gustavus I. (1746-53), and a history of Eric XIV. (1774), and was famous for his brilliant style and keen criticism. He died at Lund.

Celsus (c. 178 A.D.), one of the earliest opponents of Christianity, was the author of The True Word ('Aladas Adyos), which has been preserved for us in fragments by Origen, who undertook to refute C.'s argu-The heathen's attitude may ments. be somewhat Platonic, with a ten-dency towards Epicureanism, but essentially it is that of the man of the world whose religion is mere agnos-ticism, and who has brilliance without He upbraids the Christians depth. for their absurd credulity, their party schisms, their exorcism of demons, and for the disreputable character of the Guadalquivir's sources. their pro-elytes, who are rogues, poisoners, thiels, and idlers, women and slaves.

Hís university in his native town from method in dealing with disease is 1730-1744. He travelled much in apparently to allow nature to take its Germany, Italy, and France. In 1733 own course, though he also advises a while in Nuremberg he published free use of the knife on occasions. He points to the fact that many of the He invented the Centigrade ther most delicate and serious operations were performed in his time. Among his works he also left a pharmacy astronomer, born at Alfta, Helsing setting out many very fine pre-

where he discovered the Helsing philosopher who lived in the 2nd runes and deciphered them. He died century, during the reigns of the Antonines. He is believed to have been a Roman and a friend of Lucian. He is supposed to have written an attack on Christianity called Logos Alethes ('True Discourse'), which the Upsala University, and was also a is not now in existence, but Origen

Celsum.

Celt (from Low Lat. cellis, a chisel) tion with the plants mentioned in the has been used by both English and French archieologists to designate the stone and bronze axe heads used by Celsius, Olof. the Younger (1716-the primitive peoples of Europe. The 94), Swedish historian and poet, son normal length of a stone C. is 7 inches, of Olof C., born at Upsala. For but it varies from 1 to 20 inches; a 94), Swedish historian and poet, son normal length of a stone C. is 7 inches, of Olof C., born at Upsala. For but it varies from I to 20 inches: a some years he held the appointment of assistant librarian at the Upsala to bronze C. may be 10 inches long, but to Luriversity, where he became properties of history in 1747. Later he entered the church and went to Stockholm, and in 1777 he was made bishop of Lund. He was one of the original cutting edge. Most stone Cs. and some members of the Swedish Academy. Income ones are flat blades of oxal bronze ones are flat blades of oval section, sharpened more at one end than the other. The better bronze are heads often had flanged edges, a stone ridge, or elevation, between the blade and the part to which the handle was fitted, and a socket or hollow for the handle. Cs. served as axes, chisels, adzes, etc., and were superstitiously regarded as 'thunderbolts.' or as implements endowed with strange curative powers.

Celtiberi, a powerful people of ancient Spain, said to have sprung from the intermarriage of Spanish aborigines (Iberians) and Celtic in-vaders from Gaul. They inhabited an inland district (approximately the present S.W. of Aragon and N. and E. of Castile). Celtiberia, however, was often used to include country right to were one of the bravest and noblest peoples of the peninsula. Subdued by Hannibal, they served as Carthaginian Celsus, Aulus, or Aurelius Cornelius, a Latin writer on medicine increases against Roman mercenaries (Livy, and survery. Little or nothing is known of his life. His writings on the medicine consist of eight books, and contain a discussion on the listory of medicine. They also deal with the the destruction of Numantia (133), subject of diet and general principles. They joined Sertorius later of therapeutics, and consider the his death (72) became quite RomanSee Diodorus Siculus: Strabo, librarian to Maximilian L.

Isles, may, for historical purposes, be divided into two periods: the pre-Christian, extending from 250 B.C. to ancient 600 A.D., and that which followed the introduction of Christianity, and attained its highest excellence in the 11th or 12th centuries. In the earlier stage the metal most commonly used was bronze, and the chief fields of low and high relief, done on thin and Ireland are commonly termed plates which were afterwards riveted on the British Isles in the beds of our the British Isles in the beds of the word of dark peoples. The Celtic reamons, and grave mounds, where the word of dark peoples. The Celtic reamons, and grave mounds, where the the word of dark peoples. The Celtic reamons, and grave mounds, where the fair hair, and blue or grey eyes. All also other products of C. art are constantly being found. Sometimes the repousse design is enriched by chample of fair hair, and blue or grey eyes. All also other products of C. art are constantly being founds, being founds, and fair hair, and blue or grey eyes. All also other products of C. art are constantly being founds, blue, green, level, camels of yellow, blue, green, level, camels of yellow, blue, green, vitreous pastes. This is the case with a were called Kolmi. Physically there were two main groups closely allied: were called Kolmi. Physically there were two main groups closely allied: wittersland, and Italy (Celtic of a unique oval bronze shield, rescued form the Thannes, where there are two main groups closely allied: wittersland, and Italy (Celtic of a unique oval bronze shield, rescued form the Thannes, where there are two main groups closely allied: were called Kolmi. Physically there were two main groups closely allied: were called Kolmi. Physically there were two main groups closely allied: were called Kolmi. Physically there were two main groups closely allied: were called Kolmi. Physically there were two main groups closely allied: were called Kolmi. Physically there were two main groups closely allied: were called Kolmi. Physically there were two main groups closely allied: were called Kolmi. Physically there were called Kolmi. Physically the characteristics were gr ment, such as fretwork, with involvepatterns, diagonal frets, and obliquines; interlaced work and diapers c. I and Z-shaped designs, were added further embellishments paganism gave way before the new religion. And further, there were now bells, croziers, shrines, churches, and above all the MSS, of the gospels and psalters as fresh openings and en-couragement for the C. artist. The couragement for the C. artist. The Book of Kells in Trinity College Dublin, and the Lindisfarne Gospels, in the British Museum, with their heartists of the College of the beautifully illuminated pages, their elaborated patterns of an almost inexhaustible variety, offer the finest illustration of the art of this period. But the enamelled metal work which still flourished is nobly represented by the Ardach Chalice, and the Tara and Rogart Brooches and the Cross of Cong are fine examples of filigree and chasing work in gold and ellver.

Celtis, Konrad (1459-1508), a German humanist, attended the lectures of Agricola at Heidelberg, and there

iii.; Hubner's article in Pauly-Wis- whilst he was in his library that he sowa's Realencyclopadie, iii., 1886-93. discovered the map of the Roman Celtic Ornament, which grew out of empire published by Peutinger the iron age decoration in the British Among his own publications were Odarum libri iv. (1513).

Cells, the generic name of an ancient people, the predominant element in Central and Western Europe before the rise of Roman power and the influx of German tribes. Great confusion has resulted from inac-curate use of the words Celt and Celtic. The dark-complexioned people decoration were shields, scabbards, of France, Great Britain, and Ireland bracelets, harness mountings, and have been called 'Black C.,' while the forse trappings. Repoussé work of tongues of the races of W. Scotland low and high relief, done on thin and Ireland are commonly termed

occupying Rome after the battle of the Allia, 390 (Livy, v. 34). Bought off, they retired to Sena Gallica. Bituriges (a name still surviving in Berri) were the chief tribe. were the Arreni, Senones, Ambarri, and Ædni. These Gauls are often also called Cimbri. The most dreaded tribes came from the Baltic and the Northern Ocean; hence the peoples now called Tentons were named C. The height of their power was about 400 B.C. In the 3rd century they had spread as far as Greece and Asia Minor. Their raids were the terror of antiquity, but Casar and Augustus reduced them to inactivity. Under the latter, Galatia, where numbers of C. had settled, became a province. They founded no lasting state alone and preferred a pastoral to an agricul-tural life. Their strength made them formidable foes, but they lacked discipline. Cato described them as devoted mainly to warfare and witty conversation. In the British founded a literary society. After devoted mainy to warrare and travelling alroad and working to spread German culture, he accepted ferman culture, he accepted in 1497 the chair of poetry and cloquence at Vienna, and became but colonists, were far less civilised

wore a sleeved blouse and trousers, wore a sleeved house and rollers, fitting close to the ankle, with a tartan plaid across the shoulder fastened by a brooch, much like the costume of Highlanders in Queen Anne's time. They often had gold or bead ornaments, and enamel on their armour. The C. of Gaul and Belgium armour. The C. of Gau and Dengum wore plated armour or chain-mail coats. They could work various metals (copper and iron), and discovered bronze. Among their weapons were swords, dargers, bows, pikes, slings, and juvelins. They used two-theslad charints in war with a bronze. wheeled chariots in war with a bronze wheeled charlots in war with a notice scyttle projecting on either side, and were notoriously good seamen. They had Druids, or priests, who performed magical ceremonies, which survived in the forms of the ordeal, survived in the forms of the 'ordeal,' augury, exorcism, etc. The clan system was deep-rooted. They had musical, poetical, and literary tastes, and were distinctuished for dramatic talent. Reading museum has interesting relies of the town of Sichester, an old Celtic centre. The Celtic lumpures strictly as called in censer, an out centre centre. The Celtic language, strictly so called, is rapidly disappearing. The Bretons are the only continental people who have retained it. The group of languages commonly known as Celtic belong to the Indo-European family. They now comprise Wath Press only comprise Wath Press on the control of the They now comprise Welsh, Breton, Irish, Scottish, Gaelic, and Manx. Cornish has died out. These are in Cornin has then out. These and relose relation with the Italic and Germanic group. See Brinton, Races and Popules, 1890; Ridgeway, Early and Poples, 1890; Ridreway, Early Age of Greece, i.; Oldest Irish Epic; Ripley's Races of Europe, 1899; Rilys, Celtic Britain, 1882; Celtic Folklore, 1901; D'Arbois, Les Celtes, 1901; Evans, Coins of the Ancient Britans, 1864; Beddoe, Races of Britann, 1865; Sergi, The Mediterranean Race: Prichard, The Eastern Origin of Celtic Nations, ed. Latham, 1897; Keane, Man, Pad and Present, 1899; Nicholson, Keltic Researches, 1904; Deniker, Races of Man, 1906; Guest, Origines Celtica, 1883; Elton, Origins of English History, 1890; Encyclopadia Britannica. Encyclopadia Britannica.

Celyphus, a genus of dipterous in-sects which resemble little beetles rather than two-winged flies on

than the continental C. During the used for building purposes are Roman 400 years after Cæsar's expedition C., Portland C., and the Plaster of to Britain, they became closely allied Paris Cs. Those prepared from pitch with their Roman conquerors. They are known as Bitumenous Cs., and are known as Bitumenous Ca., and then there are glues, pastes, etc., used for small operations. We shall first deal with the building Cs. The process of manufacture of these consists cess of manufacture of these consists of the formation of silicates and aluminates of calcium by the intense heating of lime with clay, the first being derived from chalk or lime stone by driving off the carbon dioxide. It has been shown by Newberry the chief hardening constituent of C is tricalcium silic te (3CaO, SiO₂), and that dieselium aluminate is the and that dicalcium aluminate is the and that dealerum arimmate is unchief setting agent. The usual composition is found to be about 22 per cent. of SiO₂, silica, 7 per cent. of AlO₂, alumina, 62 per cent. of lime, and small quantities of iron, sode. magnesium, and sulphuric seid-Roman C. may be termed a magnesium, and sulphuric acid. Roman C. may be termed a natural C. as opposed to the artificial nature of Portland C. It was unknown to the Romans but was much used before the invention of the cheaper Portland C., which has oused it from its superior position. It is prepared from the nodules known as 'septaria' which are found in the small, especially in the Isle of Shepper and its neighbourhood. It is similar and its neighbourhood. It is similar to hydraulic lime being quick in setting, and owing to the fact that it sets rapidly under water is used ex-tensively in hydraulic works, such as breakwaters, piers, sea-walls, etc. The nodules consist of about 20 per cent-of sillea and 15 per cent, of alumina. They are calcined to drive of the carbon - dioxide and ground fine-Portland C. is the most widely used C. and is manufactured in enormous quantities: America takes enormous quantities; America takes the lead in this respect. It is, unlike Roman C., an artificial product prepared by the admixture of chalk and clay. It was invented by Joseph Aspden, of Leeds, in 1824, and was primarily an Eurilsh industry, the seat being the lower reaches of the Thames and Medway, where mud was plentiful, and this locality still produces the greater part of the C. produces the creater part of the C made in Britain. The process of manufacture has now reached a high state of perfection, and is divided into three parts: (1) the preparation of the raw materials; (2) calcining the rather than two-winned files on of the raw materials (2) calcining the account of the enlarged scutellum clinker; (3) crushing and minding which hides the reduced abdomen, the finished product. There are C. obtains inhabits Java, C. sculdus two processes, the 'wet' and the the East Indies.

Cement, a material used for bind-the nature of the nuterials used, the ing surfaces together or for uniting 'dry' process being used where particles in one mass. There are many the materials are too hard for the varieties manufactured in various 'wet' treatment. The original ways according to the purposes to method is the mixing of irrer mud which it is to be put. The chief kinds and soft chalk: the wet is the

with a masonry pier in the middle. On the latter is fixed a vertical revolving shaft to which horizontal arms are attached. From these hang harrows of vertical iron bars which dip into the materials mixed with water and rotate with the shaft. This thoroughly mixes up the sludge and breaks up any of the lumpy parts. The product is known as sherry and passes out of the mili through a grating of such division as to let pass any particles under a certain fineness. Stones accumulate at the bottom of the mill basin and can be easily removed, while any hard lumps of chalk must be ground by rollers. In the dry process the materials are dried before admission to the mixing, and various methods of kiln. The first consists (cylinder or drum, throu materials are gradually the whole is heated. In are two walls. In the interior space

is a furnace while the materials pass through the space between the two conical brick walls, damp being fed in at the top and dried material taken out at the bottom. As the kiln is kept full the process can be kept continuous in operation. The materials before drying are crushed in a 'ball which consists of a rotating drum containing steel balls which, by means of steps, drop across from side to side. After crushing and drying the materials must be mixed in the right proportions, and this is done in mixing bins. Then the mixed materials are passed through a tube mill and thoroughly ground. This mill consists of a long tube revolving on its axis and filled with hard flint pebbles, the finely-divided powder passing through gratings into a cas-After either of these processes ing. After either of these processes the material is ready for calcining. This can either be done with the materials in the form of bricks, as resulting from the wet process. Or powder from the dry process. The best form of kiln is the rotary kiln. although others are sometimes used. It consists of a long cast-fron tube lined throughout with firebrick and slightly inclined to the horizontal. The material enters at the upper end and the blast or burning material at the lower. A chimney at the top serves to create a blast and carry away the gaseous products of com-bustion. The whole rotates at a fixed slow speed. The usual method

natural process, and this will be which is carried into the kiln by an described first. The materials are air blast and on reaching the heated mixed in a 'wash mill' which con portions takes fire and gives out an sists of a basin of brick or masonry portions takes fire and gives out an intense heat. The final process consists in the grinding of the clinker product. This is very important, since it is found that the finer the grinding the more satisfactory and strong the

'kominors,' but is performed in two

stages, first there is a coarse grinding and then a fine. The finishing process is such that on sifting through a 180

mesh sieve (i.e. one with 32,400 holes

to the sq. in.) the residue is generally

about 15 per cent., at any rate it must not be more than 22 per cent. The next item in the process is testing the C. This is done both with neat C. and also with a mixture of one part materials are dried before admission C. and three parts and, as is generally to the mixing, and various methods of drying are adopted. Brieffy, these water as possible and moulded into are the drying drum and the drying briquettes with a waist section of , and the tensile strength, or strength, is measured in achines. This is done at machines. , for instance, on the first day, the seventh, fourteenth, etc., strength gradually increasing. Full particulars of the methods employed in testing and the results which should be found can be seen in a report issued by the Engineering Standards Committee in 1904, to be obtained from their offices, 28 Victoria Street, S.W. We now come to the plaster Cs., which are of various kinds, but have the most important gypsum or sulphate of lime, which in the dehydrated state is known as the denydrated state is known as Plaster of Paris. Cs. of this class are used in internal work, being partly soluble. Plaster of Paris is manu-factured as follows: The gypsum (CaSo₂2H₂O), found in many locali-ties, especially in the clays of ancient river-basins, is deprived of a portion of its water of crystallisation by heat, and powdered very fine. is then very cager for water, and on its addition rapidly crystallises in small hard crystals in which the water is taken up. Thus a hard mass is produced, which is found useful in internal plastering and uniting metal with glass. It is fairly hard but not sufficiently so for places liable to be knocked about, such as skirtings, dados, etc., and special compositions are made for this purpose. Among these are Keene's C., which is made by soaking the plaster of Paris in strong alum solution and then recalcining it, and Parian C. treated in a similar way with strong solution of boraz. Another class of Cs., and a of calcining is by means of coal dust class of increasing importance, is that

their principal constituent. Asphalt is a natural product which, heated and mixed with small particles of stone, forms a durable and easily worked surface. The surfaces of main and other roads are covered with a layer of pitch mixed with ground shale or sand and rolled, which in addition to being free from dust is easy to lay and keep up. Tar macadam has, undoubtedly, a great future before it in this respect. C. of this sort is also used to render walls The last class of C. is damp proof. that consisting of various adhesives used in small quantities, such as gums, glues, pastes, and so on. Some

have particular work. Thus work. resin obtained of the America:

property is its transparency when set. which makes it eminently useful in optical work for cementing together glass surfaces. Paste is used for cementing paper and is made from flour or starch, the flour being rubbed up with water and boiled. The addition of water before boiling improves the quality, making it thinner and stronger. In large quantities C. is used for wall papering and bill sticking, and can be made by mixing a quartern of flour with a quarter of a pound of alum into a creamy consistency with warm water, and then mouldy and p

useful and ch . . instrument makers by for cementing glass to metals. It is made by melting five parts of black resin with one part of yellow wax and then stirring in gradually one part of red ochre in fine powder and previously Mastic C. is made by well dried. mixing twenty parts of well-washed and sifted sharp sand with two parts of litharge and one of slaked lime. This is mixed with lineeed oil, which sets by its property of absorbing oxygen. It is used for repairing stonework,

Cement Stone, the name given in geology to a layer of rocks which exist at the bottom of the carboniferous deposits of N. Britain. It has the

h or brackish deposits of the Old Red Sandstone and the marine

and . ditio.

devo

large inland lakes there was a sub- stewards.

composed of Cs. with tar or pitch as sidence of the land and the C. Ss. were formed in large shallow marine lakes or deltas. excellent building C. S. forms an stone, being extensively used in Edinburgh for that purpose.

Cemetery (from the GK. κοιμπτάριον a sleeping place), a piece of ground which is specially set apart for the burial of the dead. The name was originally given to the underground burial-places of the Romans. The Greeks always made their Cs. outside the cities, and the Romans placed their tombs generally by the side of the public roads. In the early ages, the Christians used to hold their religious ceremonies in the Cs., and it is believed that this fact brought about the practice of always conse-crating the ground that was to be used for the dead. In modern times it has become the rule for each sect or denomination to have their own burial-ground, and each C. is consecrated according to the formula peculiar to the sect to which it belongs. Sometimes one C. is allotted to various denominations for the convenience of every one living in that district. In Germany the Cs. at Munich and Frankfort are called Leichenhauser (houses of the dead), and are built so as to minimise the risk of premature interment. Turks make the most picturesque Cs., as they are generally surrounded by pouring on boiling water and stirring. cypress trees. Campo Santo at Pisa As this paste is liable to become in Italy is the most famous burial-

> 1. (now Kenkri) was a E. side of the isthmus of this port that St. Paul hen he left Corinth for

Jerusalem. 2. Also the name of an ancient Greek settlement in the Troad, probably situated some distance N. of Enek in the plain of Bairamich (north-western promontory of Asia Minor).

Cenci, Beatrice (1577-99), an Italian girl, whose fame rests on the tragic and sordid character of her family history. She was the child of Fran-cesco C., a wealthy, passionate man, who proved a dissolute liver and a harsh father, and of Lucrezia, his second wife. She was involved in a plot to murder Francesco, who was assassinated whilst he slept. after torture and confession was beheaded with her mother in 1599, Shelley's magnificent tragedy, Cenci, is historically inaccurate, but has nevertheless made Beatrice one of the most heroic and tragical of women. Modern research has vealed the fact that she had an illeformation of the Old Red Sandstones in gitimate child by one of her father's

Cenis, Mont, a pass, 6893 ft. high. on the border between the Graian and Cottian Alps in Savoy (France). The famous Mont Cenis tunnel (opened in 1871) is not really over the pass itself, but lies below Col de Fréjus. 17 m to the W. It is 8 m. long The railway runs through the Isere valley from Chambery, and after crossing the valleys of the Arc and Maurienne reaches Modane (61 m. from Chambery). One terminus of the tunnel is Bardonneche, some way above Oulx, which is 18 m. distant from Modane. The carriage road, built by the Emperor Napoleon between 1803 and 1810, ascends the Arc valley for 16 m., from Modane to Lanslebourg, going down from the heights by way of the Cenis valley to Susa (37 m. from Modane), where the road meets the Lanslebourg is only 8 m. railway. from the hospice near the summit of the pass. The Little Mont Cenis superintendence gradually spreading (7166 ft.), which is supposed to be to private as well as public life; 'Hannibal's Pass,' connects the main (3) administration of the state finances, pass with the Etache valley on the including regulation of tributing French side.

Cenobites, see Comobites.

Cenomani, an offshoot of the Aulerci, a people who inhabited Gallia Celtica, an ancient division corresponding to the modern Maine in the department of Sarthe. This people helped the great rebel Vercingetorix in the rising against Cæsar in 52 B.C., constituted under Augustus a civilas stipendaria of Gallia Lugdunensis, and in 400 B.C. invaded Italy and occupied the territory of the Etruscans they conquered, making Verona and Brixia their chief towns. During the Punic wars they were faithful allies of Rome.

Cenomanian, the name given by French geologists to the lower portion

of the Upper Cretaceous period.

Cenotaph (Gk. seros, void; τάφος, a tomb), a monument or memorial stone to the memory of some one whose body lies elsewhere. Cs. are most common for drowned persons. Censer (from Lat. incendere, to

kindle), a vessel used in both Christian and pagan places of worship for the burning of incense.

Censorinus, a Latin grammarian and also a versatile writer. Flourished about the middle of the 3rd century A.D. He wrote a book called De Accentibus, which has been lost, and he also wrote a treatise called De Die Matali in the year 238, and dedicated to Quintus Cacrellius. The work is extant, and deals with various subextant, and deals with various and local the title of the official head of jects, such as astronomy, music, also the title of the official head of religious rites, natural history of man, etc., etc.

Censors (Lat. censere, to assess, judge): 1. Originally the name of two Roman officials, dating from the that originally sprang from the royal

time of Servius Tullius. After expulsion of the kings (c. 510 B.C.), the office was held by the consuls, but special magistrates were again ap-Till 351 only pointed 443 B.C. patricians were censors; the plebeian Marcus Putilus was then chosen In 339 Lex Publilia (Livy, víi. 22). enacted that one must be a plebeian. In 131 both were plebeign for the first time. They were elected on the same day in 'Comitia Centuriata,' with a consul presiding. The term of office. at first five years, was later limited to This magistracy eighteen months. was considered the highest dignity in the state, except dictatorship. chief duties were three: (1)original taking of the census, register of citizens, and their property (held in Campus Martins); (2) the regimen morum (regulation of morals), most dreaded of all their powers, this of vectigalia.

leased out to the taxes). Upkeep of public buildings and care of the treasury was en-trusted to C. Their powers were vast and undefined; only his colleague's intercessio (veto) could overrule a C.'s decisions. C. could degrade men from or promote them to the rank of senator or knight at choice, until Sulla's legislation, 81 B.C. They might class citizens with erarii with They introduced various no vote. sumptuary laws. In 265 a law forbade re-election to censorship. In 338 they drew up the list of senators (lectio sen nota cense

name on

of one pair of C. could remove it. Augustus exercised censorial powers himself as consul (8 B.C. and A.D. 14). Claudius, Vespasian, and Domitian revived the office. Trajan and later emperors acted as C. without actu-: Mommsen,

; De Boor. Dictionary

of Antiquities; Becker, Handbuch der Römischen Allerthümer, vol. ii., part 2; Niebuhr, History of Rome, ii. 2. The name is now extended to

one who controls or censures the action of others; to critics of literary or artistic work, and judges appointed by government to examine plays or songs before their publication. It is

Consorship of the Drama, a power

prerogative. existed ever since the rise of the English drama in the period of the Renaissance. In the time of Henry VIII. court entertainments were supervised by a Master of the Revels. and from that date to the middle of the 17th century, when all theatres were suppressed by law, playwrights were subject to the control either of the Master of the Revels or the Court Star Chamber. According to writers on the constitutional history of England it is not certain at what date the Lord Chamberlain first began to exercise a direct control over plays, but the records of the Lord Chamberlain's office show that as early as 1628 that functionary either personally or through his subordinate, the Master of the Revels, licensed and exercised a general control over dramatists. From being an emanation of the royal prerogative his powers ulti-mately, in 1737, became statutory. The object of the Act of 1737 was mainly political, a fact which is sufficiently indicated by the preamble to the Act, which recites that its purpose was to restrain the political and personal satire which was then prevalent on the stage, which the government of the which

was fc the passing of this Act the Lord Chamberlain appointed a licencer or examiner of plays, with a salary of \$400 a year, and that office has continued in spite of criticism down to the present time. The Act of 1737 conferred an unfettered power of veto on the Lord Chamberlain, and on which the veto was to be exercised. Under the Theatres Act, 1843, the Lord Chamberlain has power: (1) to prohibit the performance of unlicensed stage plays anywhere; (2) to license theatres in certain places; (3) a practically arbitrary right to han any stage play which in his opinion is contrary to 'good manners, decorum, and the preservation of the public peace,' words which the recent Joint Committee characterised as vague, and 'the only existing statutory authorisation 'of this particular aspect of the Lord Chamberlain's powers. Under this Act all new plays and every addition to an old play must be sent to the Lord Chamberlain by the theatre manager who proposes! before it is intended to be performed accompanied by a fee for perusal and more than two guineas. The Lord Chamberlain has local juricultion to license all theatres in the

The C. of the D. has cities of London and Westminster, in Finsbury, Marylebone, the Tower Hamlets, and also in Windsor and other places where there is a royal residence. According to the report of the Joint Committee of 1909 the county councils license places to be used in their counties, and the university authorities of Oxford and Cambridge have a veto as to the performance of plays within their respective jurisdictions. Lineally descended from the control of court festivities vested in the Master of the Revels, legally owing its origin to political exigencies as set out in the Theatres Act, 1737, the C. of D. really has its roots deep down in the civil and religious intolerance of a bygone age. The social conditions, which in reality or apparently necessitated an auto-cratic exercise by the Lord Chamberlain of his supervi-ory powers over the drama, were also conditions pre-eminently incompatible with even the bare idea of liberty of discussion, far less of the constitutional freedom of the press. The kingship as yet was personal, the body strictly the triumph

cause in the early Stuart period, and cause in the early Strart period, and nothing which in any way prejudiced such traditions was to be tolerated for a moment. 'Players' were legally and socially regarded in the light of rogues and vagabonds, living rather by the charity of their 'masters' than from any title to their earnings. So diametrically opposed are modern ideas to such ideas to such institution of

hardly likely t it was only when the Theatres Act, the progress of 1843, was passed that the legislature years opposition to it was of no very gave any indication of the principle open or sustained character, and three joint committees, in 1853, 1866. and 1892, respectively pronounced succinctly in favour of its continued The year 1908 and sucexistence. ceeding years, however, saw a re-markable manifestation of hostility to the C. of the D. on the part of a number of distinguished persons in the literary world, the exciting cause of which was the refusal by the Lord Chamberlain, on the advice of his examiner of plays, to license three plays—I' aste, a skit on An Englishman's Home, and Monna Vanna. As a result of widespread criticism of his action in the press, a joint committee of both Houses was appointed in 1908 to inquire into the working of the C. of the D. A considerable number to produce it at least seven days of well-known writers, actors, and

of the C. of the D. A remarkable to him, unless he considered it in-feature in the evidence was the addecent, offensively personal, calcumission by the examiner of plays that in advising the Lord Chamberlain on the various plays submitted to him he proceeded on no principles that could be defined, but based himself on custom, and followed the precedents of the office: his practice was to refuse a licence where plays were avowedly adapted from the Scriptures, contained political allusions likely to leopardise friendly relations with a foreign state, or had an immoral tendency. Since his inception of office in 1895 the examiner said that some 7000 plays had been submitted to him, of which 43 were refused licences, though 14 of these were subsequently reconsidered and the licences issued; the majority of his refusals were on The figures grounds of immorality. given by the examiner, however, in no way represented the true measure of his activity, for in countless instances plays were only licensed after modifications to suit objections. The absence of principle or certainty in the quasi-judicial functions of the reader was exemplified by the refusal to license Mrs. Warren's Profession, D'Annunzio's La Città Morla, The Breaking Point, notwithstanding the passing Die Walküre and The Christian, and other plays which, though dissimilar in treatment and action, yet contained parallel incidents. The gravamen of the dramatists' grievance was that the suppression of a play before production was an excessive use of executive power, and cast a stigma on the profession of the dramatist; and that it was an anomaly to place the drama under restrictions other than those imposed by the ordinary law of libel and blasphemy. The actors, on the other hand, feared that if the C. of the D. were replaced by magisterial and police control, an element of

lated to do violence to the sentiment of religious reverence, to impair relations with any foreign power, cause a breach of the peace, or to conduce to crime or vice, as representing in an invidious manner some living person, or some person recently dead. (ii.) That it should be entirely optional to submit a play for licence. and legal to perform an unlicensed Where any unlicensed play play. contravened the stated bounds the matter should be left to the Director of Public Prosecutions. In spite of repeated questions in the House, and a petition to the king signed by sixty dramatists and a number of representatives οſ repertory theatres. dramatic societies, musicians, artists, and novelists-a list abundantly representative of the intellectual and artistic contemporary talent of the kingdom-nothing has yet (March 1913) been done to give legislative effect to the proposals of the Joint Committee. It is hardly to the purpose to condemn the apparent supinc-ness of parliament. The whole ques-tion is highly controversial, and the impassi is probably due to the almost unvarying opposition of the artistic temperament, which sees in the enacted drama a legitimate vehicle for the inculcation of true revelations of life, however sordid, however gloomy, to the more ordinary materialistic temperament, which, possibly secretly fearful of truth, regards drama as a means merely of light relaxation from the cares of life, in which nothing but humorous, cheerful, or optimistic scenes and incidents should ever be represented. Some plays, besides those already alluded to, for which licences have been refused in recent years, were Mr. Laurence Housman's Pains and Penalties, M. Henri Bataille's La Vierge Folle (subsequently troduced in the Advisory Board), Tricked and of numbers of persons who were not directly concerned with the ethics of Cowen), and Hérodeade (licensed subthe dramatic art. The report of the licet to being produced only at the computer.

to be met observes i drama the absolute. all our les the tolera thinks to progress tru (1.) rem: dut

committe.

cussed before the Joint Committee. was appointed by the Lord Chamberlain to be joint examiner of plays with Mr. Redford, who, however, resigned

Censorship of the Press, see PRESS. Census, an enumeration of the inha-C. meant

iade usually every five years by every Roman citizen before two magistrates called censors, of his own name and age, and of the name and age of his wife, together with a statement of the num-ber of his children and slaves. The Roman C. differed from a modern C. both in respect of its purpose and scope. Its object was mainly fiscal; but it was also designed to ascertain the number of men capable of bearing arms. Taxation depended on the results of the Roman C. Livy states that it also showed the amount of a man's debts and the names of his creditors. Roman citizens were divided according to the valuation of their property at the C. into six classes, each class containing a num-ber of 'centuries' or hundreds. As the richer classes contained far more greatly preponderant in the

came widened under the empire. topics of inquiry were the number of persons, the number of inhabited the names of persons were required, and uninhabited houses, and the and to facilitate inquiry a separate number of families in each parish, schedule or form was sent out to each the attempted a classification of It attempted a classification of employment of individuals under very general divisions of agricultu The inquiry under this last head en-

tirely failed, owing to the confusion engendered by the classification into families. The next C. was in 1811, and since 1801 the C. has been taken every ten years. In the Cs. of 1811 and 1821 the official form of inquiry was modified so as to obtain a more accurate return of the occupation of the people. The heads of inquiry in 1841 were more numerous and minute, information in the way of social and with the result that more accurate vital statistics; in 1901, c.o. investinformation was obtained. In refer-gation was made into the evils of ence to occupation, the enumerators overcrowding by inquiries as to the were directed to ascertain the employ-number of persons occupying any

in favour of the dramatic critic of the ment of every person, distinguishing Observer, Mr. Bendall, some months sex, instead of merely, as hitherto, later. over twenty. Furthermore, the exact age of every person was ascertained, instead of quinquennial and decennial periods being taken, and the place of birth was also a subject of inquiry. Th by

ma into operation in 1001. I tive to time time the unchecked parish registers were the only available sources of in-formation. The C. of 1851 showed a marked advance on its predecessors in regard to what may be termed social statistics. For the first time the number of blind, deaf, and dumb persons was recorded. It also made inquiry into the ecclesiastical and educational condition of the country by ascertaining the amount of church accommodation at the command of each denomination, together with a return of the numbers of all the congregations on a particular day. This C. brought into prominence the sud-den and startling decrease in the centuries than the poorer, it is obvious population of Ireland. In 1861 the C. that the influence of we and naturalised British

Centuriata, the legislative

Centuriata, the legislative

of ancient Rome. From the codes of population of Ireland continued to
Theodosius and Justinian, it appears show a decrease. The first C. of Irethat the scope of the Roman C. be- land was taken in 1813, but it was

It not till 1821 that it was in any true had become a complete register of the sense an accurate or complete record. population and wealth of all the In 1871 the C. was extended to cover centuries included within the limits the British Empire, and since that of the Cæsar's dominions. Full as it year the mode of taking the C. has was, however, it was in no sense a in no essentials been improved upon. statistical record like a modern C. The accuracy of this C. was ensured and apparently in no way conceived by the Children of the country into to further the social progress of the country into the social progress of the country into the people at large. The first act of the country of the various confusing to further the social progress of the people at large. The first action is a confusing enumeration of the people of England local governmental or nunnicipal suband Scotland was made in 1801. The divisions of the kingdom. One striking feature of the C. of 1871 was that

ple, persons in board ship, and trade, manufactures, and handicraft. homeless or houseless persons. In regard to the operation of county police parative rate . ' occupations was also inquired into by classifying the living in the different occupations or professions with due regard to age. Subsequent Cs. have still further widened the field of inquiry and elicited a mass of valuable

Ganaia' schedules were

particular room or part of a house. of rooms in all dwellings, instead as The Registrar-General, in his pre-liminary report to the Local Government Board of the C. of 1911 points projudice, especially in certain cecles of the cook successive support to the cook successive su out that each successive enumeration tends to become more complex than its predecessor owing to the numerous intercensul areas into which the country is divided, the growth of the population, and the demand for an

narriages; (b) born to such

marriages; (c) the industries or sor-vices with which workers were connected, as distinct from the occupations in which they were personally engaged; (d) in the case of persons born outside England and Wales, whether they were residents or visit whether they were residents or visit crease tors in this country; (e) the number

sinstical quarters and among the ignorant, excited by the earlier Cs., it is noteworthy that the Registrar-General expects fuller and more accurate returns than ever on account of the interest evinced by the public ts of inquiry. in the C., an interest which he is were made attributes to the aid rendered by 1911: (a) the the press; to the co-operation of the parliamentary committee of the Trades Union Congress, and to the efforts of elementary school teachers, who give special C. lessons to children under their charge.

The following table shows the population in England and Wales at each of the Cs., 1801-1911, with the increase or decrease in each decennial

POPULATION

Year	Number of Males	Number of Females	Total Population	Decennial Increase
1801	4,254,735	4,637,801	8,892,536	
1811	4,873,605	5,290,651	10,164,256	1,271,720
1821	5,850,319	6,149,917	12,000,236	1,835,980
1831	6,771,196	7,125,601	13,896,797	1,896,561
1841	7,777,586	8,136,562	15,914,148	2,017,351
1851	8,781,225	9,146,384	17,927,609	2,013,461
1861	9,776,259	10,289,965	20,066,224	2,138,615
1871	11,040,403	11,663,705	22,704,108	2,637,884
1881	12,639,902	13,334,537	25,974,439	3,262,173
1891	14,052,901	14,949,624	29,002,525	3,028,086
1901	15,728,613	16,799,230	32,527,843	3,525,318
1911	17,448,476	18,626,793	36,075,269	3,547,426
(1	í ((· · · · · · · · · · · · · · · · · · ·

It is significant that the loss of population owing to emigration, which was 164,000 in 1871-81, 600,000 in 1881-91, 68,000 in 1891-1901, rose again to nearly half a million in 1901-11. The last C. shows a slight net gain by excess of birth over deaths, a result due, however, to a relatively greater reduction in the death rate than in the birth rate. The higher increases of population occurred in the counties surrounding the metropolis.

Cent and Centime (from Lat. cen-

tum, a hundred), the names of coins. The cent varies in value according to the country. Thus in the United States and Canada it is a bronze coin. the hundredth part of a dollar, worth nearly an English halfpenny, whilst in Holland the cent is made of copper, and is the hundredth part of a guilder (1s. 8d.). The centime originated in France, being a hundredth part of the franc, and is therefore equivalent to a tenth part of the English penny. It has, however, been adopted in Beldivided into 100 centimes.

Cental, the measure of 100 lbs. in avoirdupois weight. It is used not only in Great Britain, but also in America and Canada. This denomina-tion appears in the 'Board of Trade

standards.

Centaurea, a cosmopolitan genus of Composite consisting of numerous species which are of no practical importance to man, and are often mere weeds. C. cyanus, the cornflower or blue-bottle, grows in British corn-fields and is often cultivated for its pretty many-coloured flowers; moschata, the purple or white Sultan, and C. suarcolens, the yellow Sultan, are garden flowers; C. nigra is the knapweed, and C. calcitrapa the starthistle.

Centaurs, monsters, according to Greek legends, which were half men and half beasts. The beast part is always depicted in art as being that They were led by one of a horse.



CENTAUR

named Chiron, and lived in the region of Mt. Pelion. They fought many fierce battles, but in the end Hercules killed most of them and drove the rest to Mt. Pindus.

Centaurus, the Centaur, a southern constellation, only a small part of which is seen above the horizon in situated under Virgo and Libra and supposed to represent the centaur nected with the hedgehog within the

gium, and also in Italy, Greece, and Chiron. This constellation, which was switzerland under different names. In Spain the real (2½d.) has been the Milky Way. It has several points Chiron. This constellation, which was mentioned by Aratus, is bisected by the Milky Way. It has several points of interest, not the least being that it contains a Centauri, which is apparently our nearest neighbour in the stellar universe. This star is of the first magnitude (0.2), and the fourth brightest star. It has a very considerable proper motion, being as much as 368° a century. a Centauri is distant from the earth 270,000 times the from the earth 270,000 times the distance of the sun from our planet. In other words, its distance in light-year units is 41, that is to say, light travelling at 186,330 m. a second takes that number of years to cover the intervening space between Centauri and the earth. a Centauri is a double star, one revolving around the other in seventy-nine years, and there is reason to believe from perturbations observed that there is also a third, albeit invisible, companion. The two luminous stars have a probable mean distance of 2232 millions of miles from each other. One of the twain has an identical spectrum with the sun, and is thought to be of the same mass and luminosity. Its companion is about the same size, but considerably less bright. a Centauri is historically interesting as affording the first authentic result of the calculation of a stellar parallax, Henderson publishing his determination of it in 1838. α and β Centauri are known as the 'Southern Pointers' because they serve as a guide in

finding the Southern Cross. Centaury, a name applied to many plants, but most properly to Ervithraa Centaurium, the common C., a species of Gentianaceae. It is an annual herb with pink flowers, and was once gathered for the medicine of tonic property obtained from the flower-tops. The American C. consists of the genus Sabbatia, and S. angularis has rose-pink flowers. The composite Centaurea is also often known as C. in popular language.

Centenary (Lat. centenarius, to do with a hundred), a celebration of an event which happened a hundred years ago, especially of the births and deaths of famous men.

Centerville, the name of many post villages and towns in the U.S.A., the largest being the capital of Appanoose co., Iowa, 30 m. S.W. of Ottumwa, on the Chicago, Pacific, and other rallways, where many industries flourish. Pop. 5256.

Centetes, typical of the family Contains, and the contains of the contains of the care of the contains.

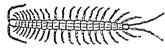
a small, Centetidæ. insectivorous mammal found in Madagascar. the latitude of Great Britain. It is single species, *C. ecaudalus*, the tensituated under Virgo and Libra and rec, is sometimes known as the tailbetween Argo and Scorpjo, and was less hedgehog, and is distantly con-

same order. In length it is from 12 to 16 in., its teeth are forty-three in ferent countries. number, the young have spiny hairs. and the female brings forth about twenty little ones at a birth.

Centigrade, see THERMOMETER.

Centimetre, a measure of length in the international metric system, being, as its name denotes, onehundredth (0.01) of a metre. It is, thus one-tenth of a decimetre, and is equal to ten millimetres. The metric system has been universally adopted in France. A C. is equivalent to 0.391 in.; a cubic C. (c.c.) to 0.061 cubie in., and a square C. to 0.155 square in.

Centipede, or Chilopoda, an order of Arthropoda in the class Myriapoda, and in some respects they resemble inserts. The number of less varies greatly, some species having only fifteen pairs, while others have as many as one hundred and seventythree pairs, and the term C. is con-sequently mi-leading. The galleyworms, as they are sometimes called, have flat bodies consisting of numerous segments, all but the last two bearing a pair of legs, and the first body-segment bearing a pair of poison-claws, while the head has three pairs of jaws and long antennæ. The



They are creatures of n. seeming to have little effec as some are utterly devoi and only one family has

eyes. They lurk beneath stones or in houses, and at night attack small animals. The genera Lithobius, Scolopendra, and Geophilus are known to Britain: L. forficatus is our most common species; S. gigas, a large tropical C., which attains a length of twelve inches; and G. electricus glows in the dark.

Centlivre, Susannah (1667-1723), an English actress and dramatist. She was the daughter of a Lincolnshire gentleman of the name of Freeman. Bath is the town that first saw her drama, The Perjured Husband, in the year 1700. She also wrote eighteen other plays, the best known of which are Lore at a Venture, The Gamester, and The Busybody. Her plays were collected in the year 1761, and some of them still hold the stage.

Centner, a weight varying in dif-In Austria, Denmark, and Switzerland, where it is most commonly used, it is equivalent in the metric system to fifty kilogrammes (50,000 grammes), and in the imperial to 110 231 lbs. (avoirdupois). Commercially its value i-100 lbs.

Cento (Gk. κέντρων, Lat. cento. patchwork), a composition put together out of passages borrowed from other writings. The manufacture of such an artificial work was a favourite literary exercise of the Romans in the early centuries A.D., as later of the mediæval monks. Virgil's Eneid was especially subjected to this treat-ment. Thus on it were based both Ausonius' rapid survey of biblical his-Ausonius' tapid survey of bond topi-tory (4th century A.D.) and Capi-tulus' attack on the immorality and luxury of monasteries (1535). The Empress Eudoxia succeeded in stringing together a life of Christ from the Homeric poems.

Cento, a tn. on the Reno, 16 m. N.N.W. of Bologna, with which it is connected by the canal of C., in Emilia, Italy. It is the birthplace of Barbieri, Francesco the

Pop. 4975.

Central Africa, British, see BRITISH

CENTRAL AFRICA.
Central America, a geographical div. extending from the isthmus of Tehuantepec to the isthmus of Panama. Mountain ranges traverse this portion of America from end to end. The Sierra Madre is the principal centifede and the Siera Madre is the principal range, which runs across Guatemala, and the highest point approaches prey with their poison-claws, which runs across Guatemala, and the highest point approaches extend S. into Nicaragua. The large in some tropical representatives are able to inflict fatal wounds the Pacific side, and form These rise to great seeming to have little effect and the principal range, which runs across Guateman, and the highest point approaches extend S. into Nicaragua. The large volcanoes of Mexico and C. A. are the principal range, which runs across Guatemala, and the highest point approaches extend S. into Nicaragua. The series is the principal range, which runs across Guatemala, and the highest point approaches extend S. into Nicaragua. The large range, which runs across Guatemala, and the highest point approaches extend S. into Nicaragua. The large range, which runs across Guatemala.

ft.) and Trazu (11,200 in Costa Rica. The amount of deposit from the volcanoes is very great, and covers a wide area. In some places this deposit has entirely blocked up the original struc-ture of the country. Eruptions began in the cretaceous period, and continue at the present time. The rocks are composed of lava and ashes, mostly andesitic and basaltic. Owing to the greatest elevation being on the Pacific side, the rivers are shorter than on the Atlantic side. The principal river is the Usumacinta, on the E. side, which is more than 600 m. long from its mouth to the Rio de la Pasion. The average temperature on the low coast lands is from 80° to 73° F., and in those lands lying from 2000 to 5000 ft. above sea-level the temperature is 73° to 63° F. Above this altitude frosts occur. The rainfall is

Central exceptionally heavy on the Atlantic side, as much as 180 in. falling in the year in Alta Verapaz, Guatemala, while San Salvador has only 54 in. A more striking contrast exists between Greytown, with a rainfall of 244 in., and Rivas with 69 in. The flora ranges from Alpine to tropical. With regard to the forests, they are inferior in size to those found in the latitudes in the eastern hemisphere, but they are far more beautiful and luxurious. In the volcanic regions the soil is extremely fertile, and yields in consequence splendid crops of rice, coffee, cocoa, and maize. The fruits grown are bananas, yams, pineapples, guavas, and citrons, while arrowroot, beans, and tomatoes are largely cultivated. The woods found there are mahogany, cedar, logwood, and Brazil wood, cocoa palms, and mangroves also grow in this country. Of fibrous plants which grow in C. A. winter's bark, sarsaparilla, vanilla, and indiarubber are the representa-Many beautiful orchids and flowers are peculiar to this country. With regard to the animals, these are as varied as the plants, but owing to the region being comparatively small, there are very few species that can claim to be peculiar to C. A. Pumas, jaguars, tapirs, monkeys, alligators, venomous snakes, vultures, and birds of brilliant plumage are found in great variety. There are as many as 260 species of birds, many of which are found only in this part of the world. Bats are so numerous that in some parts they have amounted to a plague, and whole in large numbers, and at troublesome kind. The na

consisted of the Maya Indi N., and there were smalle: other parts of the country.

the pure-bred Indian is mostly found i in Guatemala and Yucatan, and only to a much less extent in other states. The greater part of the population is made up of half-breeds, but at Costa Rica Spanish people predominate. Scattered over the country may be found many very interesting remains, the principal being the ruins of Pai-enque in Tabasco, Uxmal in Yucatan, Santa Lucia in Guatemala, and Copan in Honduras. C. A. is divided into republics named as follows: Salvador, Guatemala, Honduras, Salvador, Nicaragua, Costa Rica, and Panama. Honduras, British Honduras is a crown colony sands, encircles Lake Kara-kul. The belonging to England. The provinces of Chiapas, Tabasco, and Yucatan all ing to the Turanian basin are watered form part of the Mexican republic. by the Amu and Syr, which alone In the year 1906 war broke out succeed in bridging the desert as far between Guatemaia and Salvador, as the Aral Sea. The Murghab and

and in 1907 the hostilities extended, thereby involving all the republics, and leading to trouble between Salvador, Honduras, and Nicaragua. A treaty of peace, however, was signed in April 1907, and a conference, arranged by the presidents of the United States and Mexico, negotiated a treaty for permanent peace.

Central Asia (Russian) is nearly all comprised in the province of W. Turkestan. On the N. this province is bounded by Siberia, on the W. by the Caspian Sea, on the S. by Persia, Afghanistan, and India, and on the E. by E. Turkestan and Mongolia. There is a very sharp physical division between the mountainous country to the E. and the deserts and steppes to the W. and N. The highlands are part of the orographical flange which skirts the north-western border of the great tableland of C. A., and runs in a direction S.W. to N.E. The great border chains consist of the Ala-tau, Trans-Ili, Kunghei Ala-tau, Kok-shaltau, and Trans-alai, etc., whilst many ranges, including the Chingiztau, Kandyktau, Ferghana, Nura-tau mountains, etc., shoot off from these border chains in various directions. In both systems the heights of individual peaks vary from 10,000 to 20,000 ft., and Mt. Kaufmann and Khantengri attain an altitude of 23,000 ft. Well-developed glaciers lie on the Koksu and Khantengri attain and the control of the con tengri mountains, whilst perpetual snow covers many summits. Deep depressions such as Dzungaria, Issykkul, etc., between the ridges spread-ing out westward have from time imwillages have been left deserted owing memorial served as passes to the W. to the overwhelming swarms of these from the great central plateau. But creatures. Insects are also present the mean elevation of the passes is in large numbers, and a. belt of plains, known as plains, whose average some 1250 ft., which in are surrounded by the

stretch of lowland occupying two-thirds of the whole province, the altitude of which is altitude of which is rarely greater than 400 ft., sinking sometimes to below sea-level. The Kara-tau moun-tains separating the Syr-darya and Chu rivers is considered the line of demarcation. The higher girdle of plateau land, which is well drained by the Balkash, Ala-kul, Ili, and other rivers which flow into Lake Balkash. support the countless herds and flocks of the Kirghiz. The Akkum steppe, with its wide expanse of shifting

hara. In

between oasis and desert is very kent, and is almost zero over the Transcaspian steppes. The annual variations in temperature are very considerable. Thus, whilst in January the thermometer falls usually below freezing point, and has been known to register 10° F., a temperature of 100° F. in the shade and more is not uncommon in the summer time. Reflection from an arid soil aggravates nection from an and soil aggravates the discomfort caused by the heat. The fauna is very similar to that of N. Asia, including the Himalayan beat, marmot, badger, lynx, tiger, jackal, antelope, zebu, hedgehog, etc. Wild horses and camels are found, whilst the splendid Ovis poli abounds on the Pamir tableland. There are 385 different species of hirds whilst 385 different species of birds, whilst the variety of insect fauna is almost countless. Arboreal vegetation is rare. Poplars, ash, juniper, maples, and pines occur, whilst apple and apricot orchards flourish on the lower mountain slopes. Besides the apple and apricot, almonds, pomegranates, and figs are also cultivated. The chief were under cotton cultivation in 1902. Although only 2 per cent. of W. Turkestan is arable land, the rest 4,000,000 acres in constant cultiva-tion, whilst S. of the Syr-darya gardening, which has reached a high stage of development, is an important

Tejen dry up in the heart of the Kara-kum desert whilst the Zarafahan and iron ores and silver are not kum desert whilst the Zarafahan and iron ores and silver are not mined. The petroleum wells, as also no furthe the Kara-no further are not wells, as also bably be exploited in the near future. between oasis and desert is very clearly defined, whilst the only fertile via Kulja and Aksu, with China, but tains. The geological formation of the country is perpetually changing palatinsk, from Bokhara and Tash-Hot desert winds are continually parching the numerous lakes; the Sea of Aral, or the 'Blue Sea,' now fills silk, cattle, leather, wool, etc., whilst only a fraction of its former basin; prosperous regions, where ancient to be imported in return, as discivilisations flourished in Bokhara, tilleries and factories for dressing Bactria, and Samarkand, have been raw cotton are the only manufacture ways through the desiccation ing establishments at home. Artisan Considerable commerce is carried on, Bactria, and Samarkand, have been raw cotton are the only manufactur-swept away through the desiccation ing establishments at home. Artisan of river channels which were once work, such as carpets, shoes, caps, their main arteries. The climate is silver filigree, copper, knives, etc., continental, its salient feature being is rapidly declining. W. Turkestan the scarcity of rain. Thus though precipitation is plentiful on the high-lands, it is reduced to 11 in. at Tash-kand, it is reduced to 11 in. at Tash-kand. Semipalatinsk, Akmolinsk, Vent and is almost zero over the Syr-darya, Semiryechensk, Samar-kand, Semipalatinsk, Akmolinsk, Turgai, Amudaria, Zarafshan, the Trans-Caspian territory and the semi-Turgat, Amudaria, Zarafshan, the Trans-Caspian territory and the semi-independent states of Khiva and Rokhara, the total area being some 1,290,000 sq. m. The chief towns are Tashkent, the capital, in the Syrdarya province, with a pop. of 156,414; Khokand (86,704), Namangan (61,388), and Andijan (49,682) in Ferghana; Samarkand (58,194), Marghilan (51,832), and Khojent (31,881). The two railway systems are the Trans-Caspian and Orenburg-Tashkent lines. The former begins from Krasnovodsk on the Caspian and finally reaches Andjan (1270 m), viá the oasis of Tejen, Merv. Bokhara, and Samarkand. In 1905 Tashkent. connected by a branch line with Samarkand, was joined up with Orenburg (1149 m.) viá Perovsk, Kazalinsk, and Irghiz. Turkestan is now a land of ruined cities, monuments, and canals. Dilapidated mosques, madrasas, and other Arabian buildings bear witres to a mosques, madrasas, and other Arabian buildings bear witness to a time of prosperity and active intellectual life, which passed away soon after the conversion of the country to crops, however, are rye and wheat, life, which passed away soon after whilst in some districts, viticulture, the conversion of the country to cotton and tea planting have been Mohammedanism. The Russians successfully introduced: 531,000 acres have abolished slavery and are building schools and hospitals, but their merchants and officials who are supported by heavy taxes, are in danger consisting of 54 per cent, desert and of encouraging the depraved form of 44 per cent. pasture, irrigation keeps Islamism which to-day exists among 4,000,000 acres in constant cultivathe upper classes. As would be extion, whilst S. of the Syr-darya pected from the innumerable conquests and migrations, the pop, of W. Turkestan is very mixed. The chief representatives of the Aryan race are the Ural-Altaians, who are subdivided into Kinghiz (3,989,000), Uzbezs (726,500), Turkomans (under 250,000), and Sark (about 1,000,000). industry. Cucumbers, melons, carrots, the frepresentatives of the Aryan marrows, barley, lentils, millet, and rice are also grown. The mineral wealth of the province is very considerable, but as yet undeveloped. As the excellent coal-beds of Kulja are scarcely worked at all, lack of branches, the Cossack and the Kara fuel seems to be the reason why lead 250,000), and Sarts (about 1,000,000).

It is on the Illinois Central Railway, etc., and, besides having an important fruit market, has glass, granite, and iron works, woollen mills and canning factories. Pop. 6721.

Central India, the name used to denote a group of native or feudatory States bounded on the S. by the Central Provinces, on the E. by Bengal, and on the N. by the United Provinces and Rajputana. This group is divided into two large divisions, i.e. Baghelkhand in E., and Bundelkhand in the i.e. Baghelkhand in the Among the important subdivisions of the group are Bhopal, Gwalior, Rewa, and Indore. The natives make articles of carved wood, painted and carved ivory and brass. Silk, cotton, and woollen articles are also manufactured. The climate is very hot and sultry, and the native quarters unclean and unsanitary. The area is 78,772 sq. m., and the pop. (1901)

3,628,781. Centralisation, a term indicative of the system of concentrating administrative functions in the hands of the principal departments of the state. In political science it is the exact opposite of what is implied by the doctrine of laissez-faire, or that manner of carrying on the government of a nation in which the people are permitted to regulate themselves with as little interference from the central or supreme authority as is compatible with the conception of an independent political society. The irreducible minimum of the functions of the state which, according to Herbert Spencer, comprise the duty of keeping order within the territory of the state and of defending its borders from external aggression, has in more recent times become so expanded that much that was formerly left to the discretion of local governing bodies has been transferred to state departments. With the remarkable increase in municipal trading in England, the introduction of so much legislation on the lines of social reform, and the great activity in matters appertaining to public health, the functions of such departments as the Home Office, the Board of Trade, and the Local Government Board have necessarily become even more comprehensive. There can be but little doubt that C. secures uniformity in institutions, and that what may appear to be encroachments by the state amount in the end to nothing more than an enlightened conception of what is connoted by the obligation to preserve internal order in a state. The same increase in central authority is everywhere observable among civilised nations,

'decentralisation' have of late years been mooted, as, e.g.. in the case of the suggested devolution of some measure of autonomy to Ireland, it may be that such schemes really relate to the wider and altogether different idea of Federalism. All powerful modern states are necessarily more or less under the sway of militarism, and this is probably the main factor in the dominance of C.

Gentral Provinces, a district of India, bounded on the N. by the Central India States, on the S. by Hyderabad, on the E. by the states of the Madras Presidency and Bengal, and on the W. by Bhopal, Indore, and the Khandesh district of Bombay. The province is divided into five main divisions: Jubbulpore, Nerbudda, Nagpur, Chhattisgarh, and Berar, and these divisions are subdivided into twenty-two districts: Sangor, Damoh, Jubbulpore, Mandla, Seoni, Narsinghpur, Hoshangabad, Nimar, Betul, Chhindwara, Wardha, Nagpur, Chanda, Bhandara, Bala-ghat, Raipur, Bilaspur, Amraoti, Akola, Ellichpur, Buldana, and Wun, and fifteen tributary states: Makrai, Bastar, Kanker, Mandgaon, Kaira-Chhuikhadan, garh, Rawardha. Šakti, Raigarh, Sarangarh, Chang r, Korea, Sirguja, Udaipur, Bhakar, Korea, Sirguja, Udaipur, and Jashpur. N. of the Satpura range lies the rich and fertile plain of Nerbudda, 10,613 sq. m. in area. The district S. of the Satpuras is unrne discrict S. of the Satpuras is the prolific and covered with jungle. The chief rivers are the Nerbudda, the Tapti, the Wardha, and the Wainganga. The climate of the province is on the average cooler than that of most parts of India. The clemency of the western and the head of the province. the weather and the healthy nature of the country are due to the rainfall. which is more abundant than in Northern India, and occurs regularly in June. N. of the Satpuras wheat and grain crops are prolific: in the E. rice, cotton, pulse, and linseed are the chief products. The province is zich in coal, and the chief mines are at Warora and Mopani. The railway systems of the province are the Great Indian Peninsula and its branch lines. the East Indian, the Bengal, Nagpur, and the Indian Midland, but large tracts of the country are still without railway communication. The chief exports of the C. P. are cotton, wheat, linseed oil, rice, and hides. The majority of the inhabitants are Hindu, but there are considerable numbers of Mohammedans and Gonds (Aborigines). The natives are slow to adopt Western civilisation. Total area of province, 113,281 sq. m. Pop. (1901) 10,847,325.

is represented in Britain by C. ruber, surface the existence of any gravita-the red spur-valerian. It grows to a tional force, other than that in which height of 1 or 2 ft., has a sweet scent, the mass of the earth is an over-and is cultivated as an ornamental whelming factor. Every particle, plant. The corolla has a spur in which therefore, tends to fall in a direction honey is secreted, and only one which we call vertical, that is, to-stamen and one carpel are developed, wards the earth's C. of G. The France.

Centrarchidæ, or sun-fishes, is a family of perch-like fishes which inhabit fresh-water of N. America. The species, of which about thirty are known, are compressed and somebuild nests, all are voracious, and many are valued as food. The genus many are valued as food. The genus sum of all the little forces. Microplerus, which comprises the point is called the C. of G. black bass, is found in Europe.

Centre, a point which is equidistant from all points on the bounding lines or surfaces of a figure. Such a fixed point can only exist in a circle or a sphere, and the equal lines which may be drawn from the C. to the boundary are called radii. Irregular figures and solids, however, have a fixed point which is called a *centroid* (q.r.), or C. of mass. This point is such that the moment of the whole figure in any plane is the same as if the whole mass were collected at that point. If a figure is so regular that circles may described within and without touching different points at regular intervals, the C. of such circles is often referred to as the C. of the figure.
Centre, Canal du, an important canal in the dept. of Saône-et-Loire,

France, joining the Saone and Loire. The canal is 75 m. long, stretching from Châlon to Digoin. It was constructed in 1781.

Centre Board, a nautical device used lee-way by offering greate resistance to the current. T

is used in small speed boat lee-board.

Centre of Gravity, a fixed point in a body through which the resultant of the gravity-forces acting on all the molecules of the body may be said to act. From the earliest times it had vaguely recognised that an attraction existed between all material particles, but it was Newton who established the fact that the tendency of bodies to fall to the surface of the carth was part of the general law of

C. calcilrapa is a native of the coasts vertical line at any point of the globe of the Mediterranean and of temperate may be determined by the use of the plumb-line, which consists of a weight attached to the end of a string. A force acts upon every particle com-posing a body in a vertical direction; the directions of all the forces on all the particles will, therefore, be what oval in body and have a spot parallel, and a point can be found on the operculum. Most of them through which the same effect can be produced by a force equal to the In the case of a sphere or circle, the C. of G. is the geometrical centre, in a cylinder it is the middle point of the axis, in a triangle it is situated on the line which joins the vertex to the middle point of the opposite side, and at a distance from the vertex equal to two-thirds of that line; in each of these cases it must be supposed that the material is equally dense throughout. To determine the C. of G. of a body experimentally, it should be suspended from one point and allowed to hang freely; the C. of G. must then be in the vertical line passing through the point of suspension, otherwise the body would rotate by reason of a greater force acting on one side. By choosing acting on one side. By choosing another point of suspension a second vertical line may be established in which the C. of G. is situated, and the point of intersection of these two lines will give the required the point of the section of crayity can centre. As the action of gravity can be reduced to a single vertical force to prevent a boat making too much acting at a single point, equilibrium ative positions of

points at which a
If the body is is used in small speed boat and other racing skiffs. The board supported at one point only, that consists of a movable keel which point requires to be in the same swings on a pivot and is lowered by vertical line as the C. of G. to establish pleasure through a slot in the bottom requilibrium. If the body is supported to the body is supported to the body is supported. of the boat. Vessels with wall sides on or from a number of points, the can acquire keel depth by means of a vertical line from the C. of G. requires to fall within the figure traced out by joining those points by straight lines. The broader the base, therefore, the more stable is the equilibrium, for the body may be tilted to a greater extent without bringing the line of gravity outside the base; so that the body when released simply resumes its former position. A body is said to be in unstable equilibrium when the slightest disturbance of position results in its toppling over, such as a universal attraction. Owing to the stick balanced on the finger, in this great mass of the earth, it is extremely case the vertical line through the difficult to demonstrate on the earth's C. of G. does not pass through the point of support if the stick is moved. | direction. The two points, the centre If a body is moved to an adjacent position and still remains in equilibrium it is said to be neutral, a sphere is an example; however it is moved. the C. of G. is always vertically above the point of support.

Centre of Gyration, that point in a rotating body at which the total mass of the body may be supposed to be concentrated. Gyration is rotation about a fixed line, called the axis of gyration, and the inertia of the body acts as a resistance to any change in the angular velocity of the body with the angular velocity of the body with the whole pressure exerted by the regard to the axis of gyration. The fluid may be counteracted by a resistance depends upon the distribution of the mass, and it is possible to conceive of the whole mass being located at a single point so that the

A simple pendulum consists of a ence to plane surfaces only, since it heavy particle suspended by a fine is not always possible to represent thread from a fixed point, about the pressures on a curved surface by which it oscillates. Such a pendulum a single force. does not exist in practice, and it is usually convenient to use a rigid rod terminated by a heavy mass. The different points in this system will strive to complete their oscillations in different times, owing to their that of the more distant particles will be accelerated. Between these points it will be possible to fix upon a point where the motion is neither accelerated or retarded, and the distance of this centre of oscillation from the point of suspension is the length of the pendulum. It has been found that the point of suspension and the centre of oscillation are mutually convertible, so that the centre of oscillation may be found experimentally as that point at which the pendulum must be suspended in order to produce the same time of oscillation as when the pendulum was suspended at its first point of suspension.

Centre of Percussion, that point in a body moving round a fixed axis at which it may be struck without producing any shock at the axis. If a body free to move be struck instantaneously in a direction which does not pass through the centre of mass, it is made to rotate about some other

of percussion and the centre of rotation are mutually convertible, and in fact stand in the same relation as the centre of oscillation and the point of suspension of the body considered as a pendulum. A cricket bat swung to meet a ball at its centre of percussion does not communicate any shock to the axis by reason of the impact, but a shock is felt if the obstacle is met at a greater or smaller distance.

Centre of Pressure, that point in a surface pressed by a fluid at which single force equal to the whole pressure. If a plane surface is immersed horizontally, the centre of pressure corresponds with the centre of gravity. resistance is unaltered.

Centre of Oscillation, that point in direction. If a rectangle be immersed a suspended body at which the whole vertically with one side in the surface, mass of the body may be looked upon the C. of P. is at a distance of two-as concentrated in order that the thirds of the vertical side below the time of oscillation may be the same. Surface. The term is used with refer-

Centrifugal and Centripetal Forces are those called into play when a body is constrained to move with uniform velocity in a circular path. According to Newton's law a body will continue to move with a constant in different times, owing to their will continue to move with a constant varying distances from the point of velocity in a straight line uless acted upon by external forces. If we wish oscillate together, and it follows that the body to take up a circular path, a the motion of particles near the point force must be applied perpendicular of suspension will be retarded, while in magnitude to the product of the mass into the square of the velocity divided by the radius of the circle. The direction of the force toward the centre of the circle, and considered in this light, is a centripetal force. If we consider that the body tends to move away from the centre, the force with which it does so is called the centrifugal force. The two terms are really two names of the same thing considered in different aspects. The motion of the body when the force is removed will be along the tangent to the circle at the point where the body leaves it. The centrifugal force is an important quantity, and has many applications. Thus in the case of an engine governor there are two balls hung on rods fixed to a vertical rotating shaft, which rods can move up and down in a vertical plane, being hinged at the top end. when the shaft rotates the knobs tend to get away from the shaft and so are lifted up. This lifts up a valve-cap point in the body, whether that point lifted up. This lifts up a valve-cap is fixed or not. That is to say, that and allows steam to escape when the point is neither carried forward in a rotation is too rapid. The outlet of direction parallel to that of the blow, steam decreases the rotation of the nor has it a reaction in the opposite shaft, lowers the balls, and closes the

valve so that the pressure of steam; and rotation of the shaft are kept the moisture clinging to the material is apparently forced out by virtue of the centrifugal force acting upon it when set in rapid motion, but more; strictly speaking, this moisture tends to go in the direction of its own motion, and so leaves the fixed material behind. Similarly in separators for various operations. The centrifugal force on a body is proportional to its mass, so that dense bodies will tend to move to the outer! radius of a cylindrical vessel rotating about its axis, and lighter substances tend to move in towards the axis. In the design of fly-wheels, and all rapidly rotating wheels, the centrifugal force is an important consideration. With heavy rims moving at big velocities the force becomes enormous. and if the tensile strength of the metal does not exceed the tension caused by the force, disastrous results are caused by the wheel flying to pieces.

Centring. When arches are being made it is necessary to support them in some way in order that they shall not come to pieces before the mortar is set and equilibrium obtained. This is done by making a framework of wood called a 'centre' of the required curve along its upper edge upon which the brick or stone can rest and be built up. In the case of arches of small rise, such as those above the reveals of a window, the centre can be shaped from a single board or two boards, which are held in position by means of supports nailed into the jambs of the opening. This can only be done if the soffit is of small thickness for larger ones a semicircular frame is made with strips crossing the top. For larger arches with a big rise a complicated structure of wooden pieces must be built up to the required shape and of such a form that stresses in the members are of safe values when the load is applied. Thus the ribs, as they are called, should be kept in compression if possible, and for extra large arches this compression must not be large enough to cause bending and thus displacement of the arch. The removal of the centre is done gradually so as to let the arch take up its proper

Centriscus, the name given bу Cuvier to the typical genus Macro-rhamphorus of the family Macro-

British coasts.

Centroid is analogous to centre of gravity, but in its determination we fairly constant. Centrifugal drying leave out consideration of mass and machines act on the principle that consider distance only, so that the C. of the body of uniform density will coincide with its centre of gravity. Thus in a system of points (separate or forming an area) the C. is situated at a distance from three co-ordinate planes equal to the average distance from those planes of all the points in the system.

Centrolophus, a genus of deep-sea fishes of the family Stromateidæ and suborder Percesoces. C. niger, the black fish, and C. britannicus have occasionally been found on British

coasts.

Centronotus, or *Pholis*, a genus of spiny-rayed fishes of the Blenniidæ, or blenny family. The species are littoral, and C. gunellus, the butter-fish, is British.

Centropomus, a genus of perch-like fish of the Serranidæ, or sea-bass family. C. undecimalis, the sea-pike, which tenants the months of great rivers of S. America, weighs about twenty-five pounds, and is used largely for food.

Centropristis, a genus of spiny-rayed fish of the Serranidæ, or sea-bass family, of which several species appear on the coasts and in the rivers of America. C. nigricans, the black perch or black bass, is abundant in N. American rivers, and is much esteemed for the table.

Centumviri, a court of plebeian judges in ancient Rome, the number of which varied from 100 to 189. Sometimes the court sat as a whole body under the presidency of a prætor, but on occasions it sat in sections (consilia). Their power of jurisdiction extended in the first place to matters of status and quiritian ownership, but latterly it was confined mostly to questions of succession. The special sign of quiritian ownership was a spen, and therefore one was always erected in front of their court.

Centunculus, a small and insignificant genus of Primulacere which flourishes in temperate and sub-tropical countries. In Britain it has one native species. C. minimus, the bastard pimpernel, a small plant with pink flowers.

Centurion, a Roman officer on foot. The three principal divisions of the regiment or legion were the Principes. the Hastati and the Triarii, and ther each elected twenty centurions, two of whom were appointed to each of the thirty companies of foot into which the lezion was divided. The rhamphosidie. C. (or M.) soologar, the thirty companies of foot into the trumpeter, bellows fish or seasures, is common to the Mediteranean, and is sometimes taken on member of the council of war.

Centuripe. OT Centorbe (Lat.

Centuripæ), a tn. in the prov. of (which grows in damp, shaded parts of Catania, Sicily. The town is situated at the foot of Mt. Etna between the Simeto and the Salso, and is about 30 m. N.W. of Catania. In ancient times the town was one of the most important possessions of the Siculi (see Cicero in Verr. iv. c. 23, and Plin. iii. c. 8). The Emperor Frederick II. sacked the town in 1233. There are sulphur mines in the vicinity.

(1901) 11,187. Century Magazine, The, an illustrated American magazine founded in 1871 by Dr. J. G. Holland, Roswell Smith, and Charles Scribner under the name of Scribner's Monthly Magazine. In 1881, on the death of Dr. Holland, Mr. Richard Watson Gilder obtained the sole editorship, and the magazine became known under the title of the C. M. The The C. M. claims to be an unbiassed critic contemporary politics in Among its most famous countries. been contributions have George Kennan's Siberia and the ExileSystem, and the Life of Lincoln, by his secretaries, Hay and Nicolay. The present editor is Mr. R. U. Johnson, and the magazine now comprises two serials, short stories, verse. and articles. dealing with travel, discovery, literary, and artistic interests. The contributions are of the highest literary excellence and are charac-terised by fresh and authoritative observations, artistic treatment, and human interest. The Century also specialises in the art of wood-engraying. The illustrations are exceptionally fine. The price of the monthly publication is 35 cents.

Ceorl, an Anglo-Saxon word used to denote a freeman who held a position above the serf, but below the noble or thegn. The position of the C. was precarious: occasionally by signal services he was promoted to the rank of thegn, but more often through stress of circumstances he identified with became the serf. After the coming of William the Conqueror and the establishment of Norman feudalism in England, the C. disappeared as a unit of a definite class, and a corresponding position was occupied by the newer order of villeins.

Geos, now called Zea, an island in the Ægean Sea. It is one of the Cyclades, and noted principally for its lovely climate and its fertility. The length is 13 m. by 8 m., and it covers an area of about 40 sq. m. The birthplace of the poet Simonides. Pop. 5000.

America.

Brazilian forests, is a herb from the roots of which the drug ipecacuanha is obtained.

Cephalanthera, genus of а Orchidaceæ, of which three species C. grandiflora, C. rubra. are British. and C. ensifolia are all leafy plants with rhizomes, a rudimentary rostellum, and an unspurred labellum.

Cephalanthus, a genus of Rubiaceæ common to Asia, Africa, and America. C. occidentalis, the button-wood, is a shrub which grows to a height of 6 to 15 ft., and has a light spongy wood. The root contains an agreeable bitter used as a remedy for coughs.

Cephalaspis, a curious genus of fossil dipnoid fish found in the Old Red Sandstone of Scotland and the Upper and Lower Devonian of Canada and Britain. The species had elongated bodies, large heads covered with a bony shield, a median spine, a single dorsal fin, and the anal fin was heterocercal like that of a shark. They had no jaws, and the skeleton is thought to have been cartilaginous as it has not been preserved. Lyelii and C. Lloydii are British species, and C. magnifica, the largest Cephalaspid, occurs in the Caithness Flagstones.

Cephalhæmatoma, a term used in medicine to denote a tumour or swelling due to the extravasation of blood beneath the pericranium. It is only observed in new-born infants, and is produced by pressure during labour, which causes a tearing of the perios-teal tissues. There is no need in most cases to do anything with a swelling of this kind, as absorption generally occurs and the C. disappears.

Cephalochorda, a group of verte-brates, or ally of the vertebrates, which is classed immediately below Pisces, or fishes. It consists of only about ten species comprised in the single genus Amphioxus (q.v.).

Cephalodiscus, a curious animal about the classification of which there has been some disputation among zoologists. It was first discovered in 1876 when the members of the Challenger expedition were dredging in the Strait of Magellan, but later it was found in several other seas. was originally believed to be related to the Polyzoa, but is now generally classed with Balanoglossus, Rhabdopleura has been placed with it these worm-like creatures among which bear signs of approximating to vertebrate structure. The C. is colonial, and lives with other indi-viduals in a branching, weed-like Cephælis, now sometimes included investment which may measure as in the genus *Uragoga*, belongs to the much as 9 in. by 6. The body, like order Rubiaceæ and flourishes in S. that of *Balanoglassus*, is divided into C. (or U.) ipecacuanha, a proboscis, collar, and trunk; two

Cephalopoda (Gk. κέρλή, head, τοῦς, foot), to which belong cuttle-fishes and equids, are the most highly specialised molluces, and are characterised by the well-marked head are arranged which round symmetrically arms bearing suckers or tentacles, formed from the foot as is the funne. Given the light tentacles four ctentacles in the foot as is required. The metric of the foot as in four ctentacles in the first and the foot as in four ctentacles. two in the Dibranchiata, and in both orders the median anus, ink-sac, paired kidneys, and genital duct open The ancient forms had external shells, and though these may be seen fossil as belemnites and ammonites they have persisted in only one living genus, the Nautilus. The eyes are very large, those of one species measuring 15 in. across; the mouth has a parrot-like beak and on the tongue there is a rasping ribbon; the sense of touch is highly specialised in the arms. The cephalopods are all marine, voracious animals which feed on animal matter, especially on Crustacea; they can swim in a horizontal position or creep by means of their arms, and they project them-selves backward swiftly by a con-traction of the mantle. The ink-sac is a gland which opens into the rectum, and contains a dark brown fluid in which is Sepia; when alarmed the creature can expel this fluid and darken the surrounding water so as to cover its disappearance. Among the C. the sexes are always distinct, surrounded by Casiopeia. Ursa a characteristic not common among Major, Draco, and Cygnus. It is molluses, and the female is usually mentioned by numerous ancient larger than the male. The eggs are authors, including Eudoxus and large and are attached in masses, called sea-grapes, to bodies in the sea, appears as to the number of stars and immediately on hatching they present the appearance of a diminutive adult. The C are divided into, two orders, the Tetrabranchiata and Dibranchiata, according to the number of their gills. In the former order to cover its disappearance. ber of their gills. In the former order there are four, and the species are 1. One of the largest rivers of Attica characterised by having no ink-sac, a (Podoniphti or Sarantaporos), flow-

gill-slits are present and a notochord; well-developed external shell, a funnel the alimentary canal.

Cephalonia, or Kephallenia, the place mentioned in the Odyssey as being Samos (Same). It is the name given to the largest of the seven Ionian Isles lying to the W. of Greece and opposite the entrance to the Gulf of Lepanto. The length is 32 m. by a breadth from 5 m. to 12 m. and has an area of 300 sq. m. The coast-line is very broken, and the surface is Ainos (5315 ft.). The vine and currant are grown extensively, and wheat, oil, and fruit are the chief exports. The chief town is Argostoll.

Canbalonoda (Gk. κεφαλή, head, is represented by a diverticulum of composed of two unfused lobes, four only eight arms, the creatures are Octopoda and have no shell, e.g. Octopus, the poulpe or octopus, and Argonauta, the paper-nautilus.

Cephalotaceæ, the smallest possible order of dicotyledons, as it contains a single genus consisting of a solitary a single genus consisting of a somery species, Cephalotus follicularis. This plant, popularly known as New Holland pitcher plant, grows in the marshes of W. Australia, and is very closely related to plants of the order Saxifragaceæ; it has a pitcher which closely resembles that of Nepenthe in structure and in the function of inspect-earthing. The flowers are insect-catching. The flowers are hermaphrodite, perigyapetalous, nous, with six perianth leaves. stamens in two whorls of six, a gynæceum, consisting of six free apocarpous carpels each with a single basal ovule. The fruit is a one-seeded The order differs from the follicle. Saxifragaceæ only in the apocarpous carpels and basal ovules. The upper leaves of the plant are flat and green, while the lower leaves are those which bear the pitchers and have lids.

Cepheus, a king of Ethiopia, son of Belus, husband of Cassiopeia and father of Andromeda. He was one of the heroes in the voyage of the Argonauts, and was changed into a constellation after his death. So Ovid, Md. iv., v. 669, and v., v. 12).

er so as Cepheus, in astronomy, a constel-Among lation of the northern hemisphere,

Cephisus (Cephissus) (Gk. Knowoos):

ing S. through the olive-grove W. of the true wasps of the family Vespidæ, Athens into Bay of Phaleron (near Eleusis), E. of Piræus. It rises on the slopes of Mts. Pentelicon and Parnes, and is constantly fed by their springs. 2. Also a river flowing through Phocis and Bœotia towards the bed of the ancient Lake Copais (Topolias). Now called Mayronero, it empties into the channel of Eubcea. Its waters are drawn off in drainage canals.

Cephus, a genus of hymenopterous insects of the family Cephide, which have no waist and live on plants. The females lay their eggs in stems or twigs and the white larvæ cat their way through and thus frequently are very destructive. C. integer is an American species which feeds on willow, and C. pygmæus a European species which lives on corn.

Cepola, the typical genus of perchlike fishes of the Cepolidæ, or bandfish family. The species are all
marine and inhabit European seas;
C. rubescens, the red bandfish or red
snakefish, is a British species which grows to an average length of twelve

inches.

Ceram, Zeram, Serang, or Ceiram, an island of the Moluccas, Dutch East Indies. It is situated to the N.E. of Amboyna, and is divided by the Isthmus of Taruno into Great and Little Ceram. Very little is known of the interior of the Island; a chain of mountains crosses it, the chief height being Nusa Keli (11,000 ft.). The land is fertile, and sago is largely grown. The exports are timber, iron. dried fish, edible nests, and birds of Paradise. Area about 6605 sq. m.

Cerambycidæ, or Longicorns, family of coleopterous insects which have elongated bodies, long antennæ with their insertion much embraced by the eyes, five-segmented tarsi and no rostrum. The species live on trees and herbaceous plants, and the larvæ are soft, whitish grubs, usually without legs. More than 12,000 species are known, and many of them greatly damage trees, e.g., Saperda populnea, which attacks the aspen, and Elaphi-

dion villosum, the oak. Ceramics, the technical name for the study of the art of pottery in its widest sense, though pottery nowadays tends to designate only the coarser articles manufactured from clay, and porcelain is used to denote the finer articles. See POTTERY.

Ceramium, a genus of marine algae belonging to the order Ceramiacea. It consists of delicate, red, filamentous seaweeds, with the tips of the filaments incurved and a cortical band at the nodes. C. rubrum is a

common species.

Ceramius, a genus of the hymenop-terous family Masaride, is related to Sinope.

The fore-wings of the species are flat. their antennæ clubbed, and their

homes are usually underground cells. Ceram Laut Islands, a group of little islands belonging to the Malay Archipelago, and one of the Molucca group. These islands are situated S.E. of Ceram, the chief one being

mountainous.

Cerapus, a genus of amphipodous crustaceans, is shrimp-like in general figure, but the first pair of limbs are small, and the second constitute strong pincers; the antennæ strongly developed. C. tubularis lives in a small cylindrical tube and exposes only the anterior part of its body. The species occur in abundance in North America.

Cerargyrite, otherwise called Chlorargyrite, or Horn-silver, a mineral found in S. America and Australia. It is a form of silver ch oride, containing 75 per cent. silver and 25 per cent. chlorine. It is remarkable for mal-

leability and sectility, and is blackened by light.

Gerasin, a solid tasteless insoluble body obtained from cherry-tree gum. The soluble part of the 'aribin' is dissolved out by digesting with water and C. remains. When C. is heated with nitric acid it yields mucic and oxalic acids.

Cerastes, a genus of vipers found in W. Asia and N. Africa. The males, and sometimes the females, have a horn-like process over the eyes, and this feature is responsible for the name of the species C. cornutus, the horned viper. The other species, C. vipera, has no horns and is said to have been the asp of Cleopatra.

Cerastium, a genus of Caryophyl-laceæ, the representatives of which are called mouse-ear chickweed in Britain. The species contain no valuable properties and are quite un-

ornamental.

Cerasus, the name which Tournefort gave to a genus now usually included in *Prunus*, which belongs to the Rosaceæ. It was used to distinguish cherries from such fruit as unguish energies from such fruit as plums, and it was divided into the True Cherries, Bird-Cherries, and Cherry-Laurels. C. vulgaris, the common cherry, is identical with P. Cerasus; C. Padus, the common bird cherry, with P. Avium; C. laurecerasus, the broad-leaved cherry laurel, with P. laurocerasus; C. Lusidanica, the Portugal laurel, with P. Lusilanica, See Purnylis Lusitanica. See PRUNUS.

Cerasus, a colony on the S. shore of the Black Sea. The colony gave the name to the cherry, a fruit which grew abundantly in the region. The colony was originally founded from

Ceratina, a genus of solitary bees dog who guarded the infernal regions which belongs to the group Scopuliin Greek mythology. Described in pedine of the family Apide, or Anthophila. Unlike most bees, the Theog. 311; Homer. Virgil), he is Ceratina has very little hair on its usually represented with three or two mon in Britain.

Ceratites, a genus of fossil molluse of the order Ammonoidea. C. nodosus

is a good example.

Ceratodus (Gk. κέρας, horn; οδούς. tooth), the name given to a genus of dipnoid fishes only a few of which are teeth in one jaw and the species have only one lung. They are found largely in the Trias and less seldom in the Provencal troubadour, born in Gas-Jurassic, and living examples occur cony. A tenso and three of his in the mud-fish of Queensland rivers, amorous lyrics survive, but the C. forsteri is commonly called the pastorelas, of which mention is made barramunda.

Ceratonia Siliqua, the sole species ing the Mediterranean, especially in the Levant, and is almost the only tree of Malta. The pods, called Algaroba, the tree which yielded the honey eaten by St. John the Baptist, and the seeds are supposed to have been the original of the carat weight.

Ceratophyllaceæ. a small and order of dicotyledor plants, comprehends dicotyledonous, obscure aquatic the single genus Ceralophyllum, com-prising three species. The flowers are diclinous, the males consisting of about six to twelve stamens and as many perianth leaves, and the females of several perianth leaves and a single free carpel; there is one ovule and the fruit is an achene.

Ceratophyllum, the sole genus of Ceratophyllaceæ (q.r.), is represented in Britain by C. demersum and C. submersum, the hornworts. They are found submerged in ponds and ditches as rootless plants with muchdivided leaves, the old leaves being horny and giving them their popular name.

Cerbera, a genus of Apocynaceæ, flourishes in S. India, Ceylon, and Madagascar. C. tanghin has a fruit from which the tanghin poison is procured; it was formerly used in trials of persons convicted of crime, their guilt being established if it took effect, their innocence if they survived.

Cerberus (KépSepos), the name of the

body, and like the carpenter-bee of heads, and a tail or mane of serpents. the same group it bores in wood for He only attacked those who tried to its home. C. cœrulca is not uncomescape from Hades. It was the twelfth labour of Hercules to bring C. up from the lower world. Hevelius gave the name also to a northern constellation.

Cerberus, a genus of Colubridæ, belongs to the sub-family Homalopsinæ, and consists of viviparous, still in existence: many species, how-ever, have been found fossil. The and estuaries of the E. Indies from body is long, compressed, covered Bengal to N. Australia. C. rhymchops aquatic snakes common to the rivers with large, thin scales, there are two has large ventral scales, and none of the species are fatal to man.

Cercamon (fl. 1100), a famous

in the biography, is lost.

Cercaria, the scientific name apof its genus in the Leguminosæ, and plied to many young Tiematodes in its known by the name of carob-tree, the genus Distomum, or liver-fluke. It is found wild in the countries skirt; They bear considerable resemblance to the adult form, but possess a long, motile tail, frequently have eyes, and of Malta. The pous, cancularies or St. John's bread, contain a sweet mentary. When the eggs of a property of the lorum hatch, the larvæ search for a nutritious pulp and are used for the lorum hatch, the larvæ search for a house beings and host, e.g., water-snail, and when the the generative organs are only rudiconsumption of human beings and host, e.g., water-snall, and when the domestic animals. They are said to be C. stage is reached in the host's body they wriggle out of it, swim to another host or foreign body, lose their tails and encyst. In this form they may be eaten by a vertebrate, e.g. sheep, when they become mature and the larvæ once more continue the cycle.

Cercis, a genus of leguminous plants, flourishes in Europe, Asia, and America. C. siliquastrum, the Judas tree, is so called from the tradition that the false disciple hanced him-sell upon one, flowers in the open air in Britain. In colour they are a bright pale red, and in the spring they burst

out before a leaf appears.

Cercopithecidæ, one of the two families of Catarrhine Apes, is to be found only in the Old World. dentition is the same as that of the Similde, the internasal septum is narrow, the tail is never prehensile. cheek pouches may or may not be present, and ischial callosities are to be seen. The genera are divided amongst the two sub-families C_{CC} pilhecina, e.g. macaques, mandrill, green monkey, and Sennopilhecina, e.g. guerezas, langurs, or holy apes, and proboscis monkey.

Cercopithecus, or Guenons, is a genus of Old World monkeys, which have long tails, ischial callosities, check pouches, and are often brightly coloured, e.g. C. callitrichus, the green

monkey, has a white heard.

made professor of theology and belestettres. He is principally famous for his able commentaries on Virgil's Bucolies and Georgies in 1608 and on the Eneid in 1612. He also edited the works of Tertullian in 1624.

Cerdagne, the western part of the prov. of Roussillon in France during,

the 14th and 15th centuries.

Cerdic (d. 5341), was king of the W. Saxons and the ancestor of all the kings of England except Canute. Hardicanute, two Harolds, and Wil-Ham the Conqueror. It is said that he was the ninth descendant from Woden and he landed probably in Hampshire in the year 195. He founded one of the Teutonic kingdoms in Britain. When he landed he allied himself with Aese and Aella and defeated the Britons on many occasions. In 519, with Cymric he founded the kingdom of the W. Saxons. In 530 he conquered the Isle of Wight.

Céré, St., a French tn. in the dept. of Lot. It is situated to the N.E. of Cahors. Pop. about 3500.

Cereals, Cereal Grasses, or Cerealia, form a group of gramineous plants which are cultivated for their edible seeds; the name is derived from Ceres, the corn-goddess of classical mythology. Botanically speaking, the term has no definite limits, for the species of some genera are often cultivated for their grain, while their near allies are of no importance as food. The plants have been grown from the earliest times, and frequently the wild form from which they have sprung is unknown, as in the wheat and barley. The C. which are best known to the human race are wheat or Triticum, barley or Hordeum, rye or Secale, oats or Avena, Indian corn (maize) or Zea, millet or Panicum (also Sorghum, Setaria, Pennisetum), and rice or Oryza.

Cerebral Softening, see Diseases of

the Brain, under BRAIN. Cerebration. Unconscious. It is certain that all conscious mental pro-

cesses are accompat changes in the cereb of the Brain, under Hamilton and Dr.

that th--go on ecious

the Diana | we may take the ordinary experience monkey, has a white heard.

Cercyon, son of Poseidon and the king of Eleusis. He was a wicked tyrant and killed all strangers by wrestling with them. At last Theseus while thinking definitely of it. Acconquered him and put him to death.

Cerda, Juan Luis de (1560-1643), a Spanish anthor and a theologian, consciousness, goes on working autoborn and educated at Toledo where he spent the greater part of his life. garded as the physiological interpretation of the psychological statement of suddenly recalling a name or an he spent the greater part of his life, garded as the physiological interpre-He entered a Jesuit order and was tation of the psychological statement that the mind may undergo modification without being conscious of the processes involved. See Dr. Carpenter, Mental Physiology, book ii. chap.

Metaphysics, vol. i., xviii.
Cereuro-spinal Fluid, lies between the coverings of the brain and spinal cord. The outer covering is termed the dura-mater, while the inner one which follows the contours of the termed brain is the pia-mater. Between these two there is a third, the arachnoid, formed of loose con-The C. F. is connecting tissue. tained partly between the dura-mater and the arachnoid, but mainly between the pia-mater and the arachnoid. It passes over all the brain and spinal cord, and acts as a carrier of waste products, and as a guard against shock to either the brain or the spinal cord. It further maintains an equal pres-sure on the skull, being variable in quantity. It is a clear, practically colourless, liquid, being very similar to lymph. It is abundant in old people, for as the brain atrophies the amount of fluid increases. increases abnormally, it produces atrophy of the brain.

Cerebrum, see BRAIN.

Ceremonies, Master of the, a title reminiscent of the 'Governor of the Feast 'of the N.T. In the present day it is usually applied to an individual who assumes control of affairs at any social function.

Cereopsis, a genus of anseriform bird of the family Anatidæ, is one of the least natatorial of its kind. C. Novæ Hollandiæ, the New Holland or Cape Barren Goose, is a handsome

bird of grey-brown plumage.

Ceres: 1. A vil. in Fifeshire, Scotland, 3 m. S.E. of Cupar. Pop. 1500. 2. A dist. and tn. in Cape of Good Hope, near the Hex R. valley and 75 m. from Cape Town. It has a good water supply and is a health resort. Pop. of dist. 7000, of the tn. 1300.

Ceres, the Roman name of the ek goddess Demeter. She was one the greatest divinities and her ie translated is Eirth-mother. She

the sister of Zeus and goddess of may agriculture. She was mother of Persecon- phone by Zeus. At Athens one of the this, great festivals to Demeter or C. was

the Thesmophoria which honoured | her as a maker of laws, for agriculture is the beginning of civilisation.

Ceres, the name given to the first discovered of the asteroids. It was first seen by Piazzi at Palermo, Sicily on Jan. 1, 1801, and observed by him till Feb. 13. There was some danger of its being lost again, as by the time the news of its discovery reached other astronomers in March, observations were impossible owing to it proximity to the sun. The difficult was overcome by the invention of new method of planetary orbit com putation by Gauss. It is not visible to the naked eye being of the seventh or eighth magnitude.

Ceret, a tn. in the dept. of Pyrénées-Orientales, France. It is situated in the arron. of Perpignan, and lies to the S.W. of the city of the same name. It stands on the R. Tech quite close to the place where it is crossed by a bridge made of one stone arch. Pop. about 3000. Cereus, or Torch-Thistle, a large

genus of Cactaceæ common to tropical America and the W. Indies. Most of the species are erect, the stem is elongated, angular, seldom branched, and the fruit is often edible. Some of the members of the genus bloom in the night-time and are sweetly scented, e.g. C. triangularis and C. grandi-florens. C. senilis, old-man cactus, is covered with silky white hairs, and C. giganteus is the tallest cactus in existence, reaching a height of over 70 C. flagelliformis, the creeping C., has thin sinuous branches, and C. speciosissimus is noted for its beautiful purple and red flowers.

Ceria, a genus of dipterous insects, belongs to the Syrphidæ, or hover-fly family. The body is elongated and somewhat ovate in form, black and yellow in colour, the general appearance is wasp-like. C. compsoides is a species rarely found in Britain.

Cerignola, a tn. and episcopal see in the prov. of Foggia, Italy. It was near here that the Spaniards under Gonsalvo da Cordova defeated the French under the Duc de Nemours in 1503. Pop. 34,000.

Cerigo (anct. Cythera), the most southerly of the Ionian Isles. It is very mountainous, and covers an area of 116 sq. m. The chief tn. is Capsali which lies at the S. end. Wheat, vines, olives, and cotton are grown, and the pasture land is excellent. goats are exported to Greet numbers. The island was by the Phoenicians, and

brated for the worship of Venus, who | Lima via Oroya. was said to have come up out of the altitude of 14,270 ft. Pop. 10,000.

temporary with the last years of St. John the Apostle. Early accounts all seem to agree that the province of Asia was the scene of his work, and Hippolytus states that he had his training in Egypt. The teaching of C. was that the world had been made by angels, and the only part of the N.T. he accepted was extracted from St. Matthew's Gospel.

Cerithium, a gastropod mollusc, is

ınyran-

chial siphon, and a horny operculum. It occurs fossilised in great abundance.

Cernusci, Henri (1821-96), Italian economist, born at Milan; fought as a Republican (1848-49), and in 1850 settled as a banker in Paris. In 1871, having gained the hostility of the Communards, he left France and travelled in Egypt, China, Japan, England and America. He was an advocate of bimetallism, and his works, mainly on money questions, inclu Mécanique de l'Echange, 1865; include: lusions des Sociétées Co-opératives, 1866: Silver Vindicated, 1876; Le

Bimétallisme à quinze et demi, 1881. Cernusco sul Naviglio, a community situated 6 m. from Milan in Italy.

Pop. 6500.

Cerocoma, a genus of coleopterous insects of the family Cantharide, is noted for the extraordinary antennæ of the males. The British species appear on flowers in great numbers during the summer months, but the larva of C. Schæfferi has been found preying on the food stored in a wasp's nest.

Ceroxylon, a genus containing five American palms, is remarkable chiefly for *C. andolicum*, the wax palm of the Andes. The plant grows to a height of about 180 ft. among the most rugged precipies of the wild region it inhabits, avoiding tropical plains; its leaves or 18 to 20 ft long. plains; its leaves are 18 to 20 ft. long, and the trunk is covered with a thick incrustation of wax which is made into excellent candles.

Cerreto, a tn. and an episcopal see in the prov. of Campania, Italy, 16 m. from Benevento. It has a very fine cathedral. Pop. 5600.

Cerro de Pasco, a mining tn. and cap. of dept. of Junin, 120 m. from Callao, in the highlands of Peru. It has silver and copper mines which are

rich, and there are smelting works. Coal also found near by. road connection with ya. It stands at an

sea near this spot. Pop. 15,000. Cerro Gordo, a pass between the Cerinthus (c. A.D. 100), an early christian heretic, who was a con-Mexico City to Vera Cruz and about

60 m. from the latter. The Americans why he is not bound to do so, that under General Scott defeated the certain penalties will be inflicted by Mexicans here in 1847.

Cerro Largo, a dept. in N.E. of Uruguay. It has the Rio Negro on the N.W., and Brazil on the E. Large herds of cattle are pastured on the grass-covered downs. Its area is 5753

Sq. m. Pop. 45,000.

Certaldo, a vil. in the prov. of Tuscany, Italy, 20 m. from Florence. It is the place where Boccacoi lived and died (1313-75). Pop. 9000.

Certhia, a genus of passeriform birds, consists of several species with moderately long curved bills, short wings, and stiff tail-feathers, which have large feet and strong claws welladapted for climbing about trees and rocks. The food consists of insects and their larvæ. C. familiaris, the tree-creeper, is an active little creature common in England, with a monotonous and often-repeated note.

Certhiidæ, a family of passeriform birds known popularly as creepers. The species have a long, slightlycurved beak and there is a sharp claw on the hind toe; many utter shrill cries, e.g. Tichodroma muraria, the wall-creeper, but others have a sweet song, e.g. Certhia familiaris, true or

common creeper.

Gerthilauda, a genus of the Alaudidæ, or lark family, of which the members dwell in arid plains and deserts. The plumage is dull-coloured, and the beak long and curved.

Certificate, in law, may comprise either: (1) Documents officially prepared by a court for the purpose of notifying another court, or any one whom it may thereafter concern, of anything directed or ordered in the certifying court; or (2) signed and written statements by various persons admissible as evidence of the facts certified therein. Instances of the first kind are a bankrupt's C. of discharge, a C. of conviction or acquittal on a criminal charge tried before a court of record, a C. of dismissal on a charge before a court of summary jurisdiction, and a judge's C. of costs. Instances of the second class are a public analyst's C., a C. of the registration of a British ship, an alien's C. of naturalisation, an architect's C. as to the due performance of a building contract, a C. of shares in a jointcompany constituting stock document of title to the shares, and a C. of deposit given by a banker for the purpose of certifying that the person named therein has placed a certain sum on deposit account.

Certification, in law of Scotland, means the express or implied notice to the defender (defendant in English law) that unless he complies with the certain penalties will be inflicted by the judge. The defender may by custom obtain a special C. against the pursuer (plaintiff) if the latter fails to prosecute an action after having commenced it.

Certiorari, a writ issuing from one of the superior courts, directing the judges or officers of an inferior court to transmit or cause to be certified (certiorari facias) records or other proceedings. The object of the removal is either that the judgment of the inferior tribunal may be reviewed by the superior court, or that the decision and the proceedings leading to it may take place before the higher tribunal. The crown office rules pro-vide that indictments and proceedings from inferior courts in criminal matters may not be removed by writ of C. unless it is clear that a fair trial cannot be had in the inferior court, or that some question of law of unusual difficulty may arise, or that a view of the premises or a special jury in respect of which the indictment is preferred may be required for a satisfactory trial. The Central Criminal Court (q.v.) has a transferred jurisdiction by writ of C. from the various sessional courts within its jurisdiction. A writ of C. is demandable as of right by the crown, but a private prosecutor must apply for leave to obtain such a writ.

Certosa di Pavia, a Carthusian monastery in Italy about 5 m. N. of Pavia. This monastery was inaugurated in 1396 by Giovanni Galsazzo Visconti, Duke of Milan. The front exterior of the church is very elaborately decorated, and is considered one of the finest specimens of Renaissance work in Italy. In the interior of the church are many beautiful pieces of sculpture, among which are the tombs of the founder, of Lodovico Moro and his wife Beatrice d'Este. There are also paintings by Borgognone, Solari, Luini, and others. The monks manufacture a special liqueur. The monastery was dissolved in 1866, but it was made a national Italian monument in the year 1891. It is close to this spot that Francis I. of France was taken prisoner by the imperialists in 1525.

Cerumen, commonly known as earwax, is yellow waxy matter, and is secreted by certain glands which lie in the passage leading from the outer ear to the tympanum or drum. Its purpose is to catch particles of dust and other substances, and so prevent them from damaging the drum, and it further serves to lubricate the passage. Sometimes this is formed in excess, and it then causes deafness. order in a summons or shows a reason | Oiling and syringeing have in these cases to be resorted to so as to remove ! the wax which has become hard.

Ceruse, or White Lead, see WHITE LEAD.

Cervantes - Saavedra, Miguel de poet, and (154)nove Henarcs. His to do, but His father. were an apothecary surgeon, seems to have moved about the country during the early years of C.'s life, and it is, of course, highly probable that C. went with him. From 1566 onward the family lived in Madrid. In 1569 C contributed some poems to a memoir of Isabel de Valois, the wife of Philip II. In 1569 also we have indisputable evidence that C. was at Rome. Many theories have been put forward as to the manner of his arrival there, but the probability is that he served as a soldier in Italy and there entered the service of Acquaviva recently raised to the cardinalate. In 1570 he became a soldier in the regular service. and in 1571 he took part in the battle of Lepanto, serving on board the Marquesa. He was ill of a fever at the time of the battle, but insisted upon fighting, and was thrice wounded. During the following years he saw active service at Navarino and Tunis. and served in the garrison at Naples In 1575 he received and Palermo. leave to return to Spain, and armed with letters of recommendation from those in authority he set out for home. He sailed in a ship called the Sol. which was taken on the voyage by Barbary pirates, and C. and his brother, together with many other Spaniards, were taken to Algiers and there sold as slaves. C. became the slave of a man called Dali Mami, and since he was supposed to be a man of considerable importance was somewhat closely guarded. In 1576 he tried to escape but failed, in 1577 his was ransomed, but amount sent was not sufficient to pay his ransom also, and in the same year he made another attempt to escape. He was captured and brought before Hassan Pasha, the viceroy of Algiers, by whom he was bought, and who seems to have regarded the 'maimed Spaniard' as a kind of mascet. C. still had many plans for escape, and his parents were indefatigable in their attempts to ransom him, and finally, after much difficulty, he was released and returned to Spain in Oct. 1580, reaching Madrid in the December of the same year. During tŀ Tag he 6€ and P been years

in existence at the present time. 1584 he produced Galatea, and in the December of the same year he married. He found, however, that he could not earn sufficient with his pen, although in the matter of dramatic plays it had been exceedingly busy, and so in 1587 we find him engaged in gathering stores for the Invincible Armada. Between this date and the end of the century his fortune sank lower and lower. The work which he was doing was uncongenial, the pay was often in arrears, he was unfortunate in the men he employed, was in constant financial difficulties, and his unbusiness-like methods cost him even the pittance which he was earning. was at least twice imprisoned during this period, and by 1600 his condition was that of extreme poverty. He had still contributed a little to the literature of the time, but practically between 1585-1603 his contributions may be regarded as a negligible quantity. In 1604, however, permission was granted C. to publish Don Quizote. It is possible that his work may have been read in MS. previous to this date, but it was first definitely published at the beginning of 1005 Per Qui rote sprang into unive mee. The the book díd not a ind: but its essentially natural character. its broad survey of the types of the once, and the book became a huge success. Editions of it were pirated; it was printed at Madrid, at Lisbon, at Valencia. Within six months of its publication Don Quixote and Sancho Panza were regarded as proverbial types of character. His main object, as C. himself said, was to ridicule the romances of chivalry; the greater world-wide view of the book came only slowly and was not appreciated, because it was not seen by the greater number of his contemporaries. after the publication of his great book C. would seem to have remained poor. He had also at this time a number of domestic troubles, and in 1608 we find him living in very poor circum-stances indeed. In 1609 he became a member of one of the Franciscan orders, and in 1613 he published and sold his Novelas Exemplares, a book which would itself entitle him to rank as one of the greatest of Spanish writers. It consisted of twelve short stories written in his own inimitable style. Between this date and 1614, he published some plays, and some inter-The plays are acknowledged ludes. by himself not to be good, but in 1583-87 he produced many plays for most cases the prose is good. In 1614 the stage, very few of which remain also appeared his most famous noem,

Cervantes

Viage del Parnaso. In 1614 was single genus Moschus, the musk-deer published a second part to Don of Asia; several extinct genera are Quixole, this time, however, from found fossii. The members of the the pen of one Avellaneda, who in his preface taunted C. with his poverty and ill fortune, and openly acknowledged that whilst he knew that he (the author) would not stand any chance from a literary point of view in competition with C., he was determined to be the first in the market. The second part from the pen of C. was published in 1615, and received with as much acclamation as had been the first. His last work, Trabajos de Persiles y Sigismunda, the author did not live to see published; he breathed his last in April 1616, the greatest of all Spanish novelists. Before his death his Don Quixole had been translated into many languages, and was destined to become one of the most popular of all books of all languages. Editions: Paris, 1850; Edinburgh, 1898-99 (edited by J. Fitzmaurice Kelly and Ormsby). Translations: Jarvis 1801; Smollett, Motteau. Life by Ashbee, Duffield, Fitzmaurice Kelly, and Calvert.

Cervera y Topete, Pascual (1833-1909), a Spanish admiral and commander-in-chief during the Spanish-American War of 1898. He was born at Jerez in the prov. of Cadiz. When the war broke out, he sailed for Cuba with secret orders to defend Spanish interests. He reached Santiago on May 19, and was there blockaded by Admiral Sampson commanding the American fleet. The Americans tried American trees. The American trees to block the harbour by sinking the Merrimac, but failed to do so, and on July 3, the Spanish fleet endeavoured to escape. This was done in face of public opinion, but aga C.'s judgment. The result was the Americans captured or s

every Spanish ship, killed a third of their crews, and C. was made a prisoner. When the war ended he returned to Spain, where he was tried by court-martial, but honourably acquitted

Cervetri, or Cervetere, a vil. 20 m. W.N.W. of Rome. It is built in a corner on the inner side of the ancient Etruscan walls of the city Caere. The old city carried on an extensive trade and was very prosperous down to the 13th century. It is noted for the famous Etruscan graves, some of which are cut out of the solid rock.

Cervia, a community in the prov. of

family are distinguished by their antiers, features possessed by no other ruminants, which are present in all male deer, but Moschus and Hydropotes, and in the females also of Rangifer, the reindeer. In the genus Elaphodus the antlers are devoid of any branching, but in Cervus there are several branches and there may be as many as forty-eight points. gall-bladder is present only in Moschus, and in the family Bovidæ (q.v.) only one genus lacks this organ; all deer have two orifices to the lachrymal duct, and only one genus of antelope has this feature; and in several minor points the C. may be shown to differ from the Bovidæ. The sixty or so species of deer are spread over Europe, Asia, America, and part of Africa, and are totally lacking in Australia.

Cervin, Mont, see MATTERHORN. Cervole, Arnaud de (d. 1366), also known as Archpriest. He was born at

Perigord and was a leader of the French mercenary troops. He entered into the service of King John in 1352 and fought against the English, especially distinguishing himself at the battle of Politiers in 1356. In 1357 he invaded and looted Provence and compelled Pope Innocent VI. of Avig-non to pay a large sum of money. Charles V. of France made use of him in 1359 to disperse other bands, the Tard-Venus. In 1365 he gathered all his troops together on the Alsatian frontier with a view of quelling the Turks, but his men were so riotous and disorderly that Charles IV. of Germany would not consent to their

year by one occasion of a new expedition against the Turks.

Cervus, see DEER. Cesalpino, see CESALPINUS, ANDREAS.

Cesari, Giuseppe (1568-1640), called Il Cavaliere d'Arpino. He was a painter in Rome of very high repute, and was the rival of Caracci and Caraveggio. His work, however, is not accurate, nor is the perspective good, but it is considered very pleasing by some. His best works were a Roman battle picture, and 'The Death of Cicero.'

mo. He was

and 15 m. from the tn. of Ravenna, Italy, situated on the Adriatic. It has a beautiful cathedral. Pop. 8000. Cervidæ, the deer family, of the ruminant division Pecora, is divided into the sub-families Cervimæ and Moschinæ. the latter consisting of the ready a crusade against John Huss

when C. approached him as papal legate and persuaded him to go back on his word. The result was disaster.
In 1444 they fought the Turks at
Varna, and both C. and the king were killed.

Cesarotti, Melchiore (1730-1808). an Italian writer, born in Padua of noble but poor family. He became a noble but poor family. He became a professor of Greek and Hebrew at the university in his native town in 1768, and held that position all his life. When Italy was invaded by the the French, he wrote in defence of their cause, and Napoleon I. made him a knight of the iron crown, and gave him a pension. By way of expressing his gratitude he penned a very ful-some poem to Napoleon called Pronea. His most important original work was Saggio sulla Filosofia delle Lingue, which he wrote in 1785. this he advocated a free development of language as opposed to the teaching of the Della Cruscan Academy at Florence. He also wrote book called Filosofia del Gusto. His great work of translation was Macpherson's Ossian, done in 1763, but he produced a completer edition in 1772. This was thought much of in Italy, and it exercised a great influence in that country and elsewhere. His introductory preface was translated into English and edited with notes by J. M'Arthur in 1806. He notes by J. Marthur in 1800. He also attempted, by war of translation, a prose version of the Hiad, which he followed with a long verse paraphrase running into 10 vols., entitled La Morie d'Ettore. In 1772 he translated some of Voltaire's plays and Gray's Elegy.

Cesarwitch, see TEAR.

Cesena (anct. Cæsena), a tn. and episcopal see in the prov. of Forli, Italy, 17 m from Rimini. It has a splendid Malatesta library and also a cathedral and a citadel. The people cathedral and a citadel. The people spin silk and mine sulphur, and the town is noted for its wine and hemp. The French defeated the Austrians here in 1815. Dante alludes to its history in his Inferno. Pop. 42,000.

Cesenatico, a community and seaport on the Adriatic in the prov. of Forli in Italy, 14 m. from Rimini. British ships bombarded it in 1800. Pop. 7500.

and his followers. He was present at 1848, in the Crimean War, and in the the battle of Taus in 1431. He became president of the council of Basel in 1431, but as his propositions were 1855 he was made American consul not agreeable to the council he resigned in 1438. The King of Poland, Ladislaus III., had conquered the Curium, and Larnaca. The Museum Turks and made a treaty with them. of Art in New York bought nearly when C. approached him as panel all his collection and he was appointed. all his collection, and he was appointed its director in 1878. He brought out a book entitled Cyprus, its Ancient Cities. Tombs, and Temples.

Cessio Bonorum, in Scots law, a system which enabled any person who was in prison for civil debt. or

who was in prison for civil debt, or against whom such a writ of imprisonment had been issued, to present a petition setting forth his inability to meet his liabilities and his willinness to convey the whole of his property to a trustee for the benefit of his creditors. C. B., like the old insolvency system in England, was characterised by this important difference from mercantile bankruptcy, that the person who obtained the privilege was not discharged from his debts, but only from proceedings against his person. Since the Debtors Act 1880, which virtually abolished imprisonment for debt. the process of C. B. is applied to sequestration (in English law, 'adjudication ') in minor bankruptcies, for the

purpose of reducing expenses. Cession (Lat. cedere, to yield), the name given in international law to the formal transfer of territory from one state to another. This may be the result of a gift, an exchange, or a sale, but is more usually due to the fortune of war, most Cs. having been exacted as the price of peace between war-ring nations. The consent of the people of the ceded territory is not essential, but deference is often paid to their wishes. Their civil and to their wishes. Their civil and political rights are generally deter-mined by the treaty under which the C. is made. Apart from special stipu-lations, the citizens transfer their allegiance from one sovereignty to the other, obtaining their share in the rights of the new state. Old laws continue valid until altered by the new Titles to property and sovereign. personal relations remain unchanged. If the citizens should suffer loss of property by the C., the ceding state is not bound to indemnify them. Usually a clause in the C. treaty deals with the question of debts. See Kith the question of december of the Commentaries on American Lav. by Kent. 1873: Hall and Wheaton. International Law: Lawrence. Principles of International Law. 1990.

Cestoda, or Cestoid Worms, form and Phatrick Parthelimithes or flat

an order of Platybelminthes, or flat Cesnola, Luigi Palma de, Count worms, and from their elongated (1832-1904), the explorer of Cyprus, shape are known as tape-worms, born at Rivarolo, near Turin. He They are all parasitic and only one fought in the war with Austria in genus reaches the adult stage outside

the alimentary canal of vertebrates. The tape-worm consists of a head, or scolex, which attaches itself to the lining of the canal by suckers or hooks, and most of the species then show a long chain of segments, or proglottides, each of which, when separated from the others, lives as an independent animal. A few species, however, have no external segmentation, and do not break off in this way. In no species are there sense-organs, vascular system, mouth or alimentary canal, food being absorbed by the body from the host, but there are a nervous and a well-developed ex-cretory system. The life history is curious. The detached proglottides pass out of the host, and the eggs are scattered. These are swallowed by a new host in its food or drinking-water and the embryos eventually bore into the blood-vessels and are carried to the various organs. Thereupon they change into a cystic or bladder-worm, and develop a scolex, and if the animal in which they live is eaten by another the scolex passes into this final host, enters the alimentary canal, and matures. Among the vertebrates attacked by the C., are man, dog, sheep, ox, horse, hare, rabbit, squirrel, fox, pig, rat, mouse, frog, and several birds. Bolhriocephalus latus, the largest species preying on man. http://doi.org/10.1016/j.com/10.1016 balis destroys many sheep; and various members of the genus Toenia are not vegetarian in habit.

Cestracion.

Port Jackson shark.
Cestus: 1. Thongs of leather which
the Greek and Roman boxers wore
on their hands. They were not used
as are modern boxing gloves to soften
the blov, but to make it harder, as these thongs were often weighted with iron and lead. 2. The name given to the magic belt of Aphrodite (Venus) which made everybody who beheld

her fall in love with her.
Cestus Veneris, or Venus's Girdle, is a species of Ctenophora found in the Mediterranean and Atlantic. The body of this coelenterate is much compressed, and becomes ribbon-like in shape; it often exceeds one yard in length. C. peclenalis resembles it in appearance, but has a patch of orange at each end of its body.

Cetacea, a large order of mammals, consisting of whales, dolphins, and porpoises, but the purely aquatic habit of its members has often led killer, and the pilot whale. See them to be classed vulgarly and separate articles for products and erroneously with fishes. They are species.

tail expanded into horizontal flukes which aid the creatures in their powerful locomotion, there are no posterior limbs, and the anterior limbs are converted into paddles which are unprovided with external digits. They are unlike fish in nearly all important characteristics, such as that they possess warm blood and breathe air; in connection with the latter feature it may here be mentioned that in spouting whales do not blow sea-water, and any water that can be seen is the condensed vapour of their breath. Among the C. a hairy covering is always absent, but it is represented usually by a very few bristly hairs about the mouth easily counted; the warmth of which they would be deprived by the absence of the covering is amply replaced by a thick layer of blubber under the skin. The head of the animals is always rery large, the nostrils are seen as a single or double blowhole placed generally far back on the skull, the bones are spongy and full of oil, teeth are few or absent, there is no collar-bone, the eyes are tiny when compared with the bulk of their owner, and there is no external ear. The females usually bring forth one at a birth; their two mamme are in-:: " f ::: tion of feeding the young in devoted to her offspring. Whales are very widely distributed throughout dangerous to human beings who are the seas of the world, and a few are to be found in rivers of Asia and S. On land they are helpless, Cestraciontide being for a short time out occurs in the C. phillippi is known popularly as the probably crushed by their own weight. Port Jackson shark. their chief food being cuttle-fish, crustaceans, some even d whales. In gentle and docue. The minimum size of one of these animals is about 3 ft., and the maximum is the enormous length of 85 ft. Fossil C. have been found in the Eccene, Miocene, and Plicene, and the sub-order Archeo-

fish-like in form, having a tapering

ceti comprises a single genus, that of the extinct Zeuglodon. The two sub-orders of living C. are the Mystacoceti or whalebone whales and the Odontoceti or toothed whales. In the former division are to be found the species known as right-whales, rorquals, the grey whale, the blue whale, and the hump-back whale; in the latter occur the sperm-whales, bottlenose, dolphins, porpoises, the narwhal, white whale or beluga, the killer, and the pilot whale. See

Cethegus, the name of a patrician Roman family of the Cornelian clan.

Marcus Cornelius Cethegus twice censor, in 209 B.C. and 204 B.C. respectively. He was noted for his rhetoric and correct manner of speak-

ing. He died in 196 B.C.

Caius Cornelius Cethegus was one of Catiline's companions in his conspiracy of 63 B.C. He stayed in Rome intending to muraer the senators, but Cicero arrested him senators, but Cicero arrested him and had him put to death. Is said to have been a worthless and violent man.

Cetin (C₂,H₆₁O₂), a fatty, crystal-line substance, insoluble in water, but soluble in alcohol and ether. melts at 49°C. and volatilises at 360°C. It is the chief constituent of spermaceti, a wax found in the body of the sperm-whale and other cetacea. C. is employed as an emplicant, and for the manufacture of candles, etc.

Cetinje, see CETTINJE

Cetiosaurus, a genus of large fossil Dinosaurs in the order Sauropoda. This reptile was four-footed and herbivorous; its remains occur in the Middle Jura of England, but both skull and cervical vertebræ are unknown.

Cetonia, a genus of coleopterous insects of the family Scaraboidee. inhabits warm lands. C. aurata, the rose-chafer, is a beautiful bright green beetle. Both larva and imago feed on vegetable substances, but C. floricola is said to live in ants' nests in the larval state and to eat

the young.

Cetotolites (Gk. kýros, whale, ovs, ear, hísos, stone), the parts of the ear-bone of a whale found fossi in great abundance in the Upper Tertiary on account of their hardness. They have been used in the manufacture of superphosphate of potash

for artificial manure.

Cetraria Islandica, or Iceland Moss, a fruticose lichen procured mostly from Norway and Iceland, but also a native of the higher mountains of N. Britain. When dry, it is almost odourless, and the taste is bitter and unpleasant, but when the bitter principle is removed it becomes a wholesome and palutable food. It must first be boiled in water, upon which it becomes a mucilarinous fluid; unless steeped it is offensively bitter, and its purgative properties have given it the name of Lichen catharticus.

Cette (anct. Setion), a seaport in Herault, France, and situated 17 m. S.W. of Montpellier at the entrance to the Thau layoon, and a few miles . of the meeting of the Canal du Midi with the Mediterranean. It has

bathing and mineral springs form a great attraction to visitors. There is an extensive fishing industry and the principal trade is done in liqueurs, beer, wines, and brandy, all made in the town. The town is of Greek foundation. Pop. 34,000.

Cettinge (from Settinya), cap. of Montenegro and 12 m. from Cattaro in Dalmatia. It is the residence of the king and the see of the bishop. It is situated in a plain with limestone mountains lying round. surrounding country is very bare and rocky, but here and there are rich patches of soil. The nearest port is

stellation situated below Pisces and Aries, and was supposed to represent the sea monster about to devour Andromeda. Although it covers a large expanse of sky no star in it is of a brighter magnitude than the third. Mira Ceti is a long period variable. In about 332 days it increases in brightness from below the ninth magnitude (when it is only visible with a telescope) to about the second magnitude, and then declines. Its period varies from 320 days to 370, and its maximum and minimum luminosity is not invariable. It is historically interesting as being the first recorded variable, its fluctuations being noticed in the first instance by David Fabricus in 1596. tains many of the so-called 'white' nebulæ, one of the most important being discovered by Caroline Herschel in 1783. It was at first thought to be elliptical in form, but its true shape has now been shown by Dr. Roberts to be spirai.

Cetywayo, phonetically spelt Ketshwyo (c.1836-84), the son of the Zuluking Panda, and whom he deposed in 1856. He defeated his brother Umbulazie, and then his right to the throne was acknowledged by Natal on the conditions that he dispersed his troops and gave up his barbarous mode of governing. It was owing to the Transvaal being annexed in 1877 that England had to enforce these measures, and in 1879 C. was made a measures, and in 1813 C. was made a prisoner by Major Marter and lodged in Cape Town. He was brought to England in 1882, but through pressure of public opinion he was restored as king of the Zulus again in 1883. However, very soon after he returned to his native land he was attacked and beaten by one of his old enemies named Usibepu, and he had to fly to shelter in the native reserve.

Ceulen (or Keulen), Van, see VAN CEULEN.

Ceuta, a fort and scaport belonging an excellent harbour, and its sea- to Spain and situated to the E. of the

Moroccan peninsula, which juts out Lozère (Lozère, Pic de Finiels, Mt. N. towards Gibraltar. It is supposed Aigonal). The Loire, Allier, Tarn, to be the ancient town Abyla, one of the mythical Pillars of Hercules. It in the C. In the N.E. a railway from consists of an old town right on the tongue of the peninsula, and a new town running up the hills at the back. It is a bishop's see, and has a fine 15th century cathedral. The fortifications were made stronger at the end of the 19th century, and it is now suggested that C. should be made into a first-class fortress. This will be done in spite of the hills commanding the situation. C. was a very busy town once and did a great trade both under Roman and Arab rule. It was conquered by King João I. of Portugai in 1415, but passed into the hands of Spain in 1580. Pop. 13.000.

Ceutorhynchus, a genus of coleop-terous insects of the family Curculionidæ, is a small weevil with many species, which frequents various

plants.

Cevadilla, Sebadilla, and Sabadilla, are various Spanish-Mexican names applied to liliaccous plants containing veratrin. Schenocaulon officinale is one of these plants and the alkaloid is derived from its dried fruits; Helonias officinale is another species, a native of N. America; Veratrum album, often known as white hellebore root: and V. sabadilla are gathered for the veratrin-yielding rhizomes. alkaloid is a grey, amorphous sub-stance of irritating and poisonous properties; it is used medicinally as a sedative and irritant, and in cases of rheumatism as a stimulant.

Cevadine, an alkaloidal substance found in hellebore and sabadilla. It occurs in white crystals, soluble in water, alcohol, and ether. In medi-cine it has been used to expel worms,

but it is very poisonous. Cévennes (from Celticroot, cf. Welsh cefn, ridge), an important mountain range in S.E. France, extending (in n Canal du to the S.

ige is some 330 m. long, forms the S.E. border of the Central Plateau, and the water-Garonne.

nfined to ending at ic, N. of

Montagne de Lozère. In its narrowest signification it means only those mountains E. of the plateaux of the Causses, beginning with Lozère plateau and ending with those round praceau and ending with those round Aigonal at the head of the Gard valley. The large group is divided into two divisions: N. with Monts du Charolais, Beaujolais, Lyonnais, Vivarais (Mt. Mézenc), and S., with Montagnes Noires, Cèvennes Proper, Garrigues, Monts de l'Epinouse and

Nimes crosses the range by Alais to the valley of Allier and Clermont. The central mass lies in the departments of Ardèche, Lozère, Haute-Loire. The rocks are chiefly metamorphic and granitic, volcanic in parts. The C. have been the scene of much religious warfare. The revolt of the Camisards occurred here, where many Protestant families found refuge after the revocation of the Edict of Nantes (1685). Also an old district of France, capital Mende. See Stevenson's Travels in the Cévennes, 1895; Ribard, L'histoire cérénale d'après des documents, 1898; Porcher, Le Pays de Camisards, 1894. Ceylon (Sanskrit Sinhala), island

in the Indian Ocean, crown colony of Great Britain, separated from India by Gulf of Manaar and Palk Strait, but virtually joined to the mainland by the submerged coral reefs and sandbanks, known as Adam's Bridge, and by Rameswaram Length from Dondra Head to Palmyra Point about 266 m., width varies from 32 to 140 m. Area over 25,000 sq. m. The island is mountainous in the S., expanding into a wide plain towards the N., still partly impenetrable jungle. The loftiest peak is Piduru Talagala (Pedrotallagalla), over 8000 ft.; the best known is Adam's Peak, over 7000 tt. There are nine provinces for administrative purposes, subdivided into twenty-two districts. The provinces are: Northern, North-Western, North Central, Western, Central, Eastern, Southern, Uva, and Sabaragamuova. Of these the Palmyra Point about 266 m., width Sabaragamueva. ot these Western, Central, and Southern have the largest pop. A British governor is appointed by the London Colonial Office, with an executive council of five, and a legislative of seventeen members (since 1831). The longest river is Mahavilla Ganga, flowing into the sea by Trinkomali Bay. There are no lakes. The S.W. is damp, but N.E. and S.E. require irrigation, and remains of vast reservoir basins for this purpose are found in the N. The climate is tropical, but the heat is tempered by the surrounding sea; unhealthy in the coast districts it is fine in the interior hilly parts. Newara Eliya, where there is a snewara Enya, where there is a sanatorium, has a mean temperature of 58°, Colombo one of 80°. Among C.'s chief towns are Colombo (its capital and chief seaport), Jaffina, Kandy, Kalutara, Perideniya, and Point de Galle. In the N. are the ruins of Anuradhapura. There are several short railway lines the longest several short railway lines, the longest

being between Colombo and Kandy, thought to be of Arabic descent. The stiff fibres of the palmyra palm stones, notably rubies and sapphires. Among native animals are tuskless elephants, bears, panthers, various kinds of deer and monkeys, leopards, and buffaloes. There are countless kinds of ferns and flowers, innumerable species of birds, and many reptiles, including crocodiles. C. has been called the 'pearl garden' of the earth, and the pearl-oyster fisheries on the coast sometimes yield a large on the coast sometimes yield a large income. These fisheries were leased to a private company, 1905. For further details see Herdman, Report on the Pearl-Oyster Fisheries (1903-4). C.'s chief imports are rice, cotton manufactures, and coal. In 1909 the leading exports were plumbago, cocoanuts, coco, areca-nuts, and tea. C. rubber, of the Para variety, also commands a high price. 49 per cent. of the exports went to the British Isles (1909), and 26 per cent. of the imports came from there. dominant race, forming about twothirds of the pop., are the Singhalese archeology i (or froi

in C. about the our contact. Singhalese kings ruled from 543 B.c. to a.D. 1815. Their language, a modern 1874. He
Indian dialect, is spoken in the S. L'Emplologie, an archwological paper,
Tanul (a Dravidian dialect) in the between the years 1873-77. Maspero Tamil (a Dravidian dialect) in the between the years 1513-11. Maspero N. The Singhalese are Buddhists, the wrote his biography, which was atreal introduction of Buddhism into tached to an edition of his Œutres the island dating from the 3rd cen-Differess, in 1899.

Tury B.C., when Mahinda came from Chabert, Philippe (1737-1814), a India and established it under King French veterinary surgeon, born at Tissa (a contemporary of Asoka). Lyons; studied in the veterinary Sec Copleston, Buddhism in Ceylon. school there, and in 1766 obtained an 1809. Next in importance are the important nost at Alfort, finally be-

being between Colombo and kandy, thought to be of arabic descent. The soil is mostly fertile, and vegeta. They are the most energetic and intion very luxuriant. The time of telligent. A few half-civilised Veddahs greatest heat is between the two remain among the wild mountain monsoons, from February to May. tribes. About 10,000 Europeans live Forests abound, and also plantations in C., and 23,000 Europeans and Simpholeson. Forests abound, and also plantations in C., and 23,000 but asked described of coco, areca, tea, and coffee. Since ants of Europeans and Singhalese), the blight of 1870 ('Hemileia vasta- often called Burghers. Europeans the blight of 1870 (Tenniera vasta) often carred Burguers. Europeans trix'), the cultivation of coffee has own most of the tea-platations, been largely replaced by that of tea. Much of the work is done by imported Other products are rice, coccanut, coolies, who usually return to India cinnamon, cardamoms, and tobacco. after a few years, but the proportion of Singhalese is increasing. In 1901 are prepared as a substitute for over half the pop, could neither read bristles, and the palmyra is also used nor write. The Portuguese reached for food. Ceylon provides Europe C. 1505, and established commercial with its largest supply of cinchona. settlements. They were driven away and is third among the tea producing by the Dutch, 1656. In 1795 C. passed countries of the world. Of its mineral into English possession, being first resources plumbago (graphite) and annexed to Madras; made a separate talc are of most commercial value; colony, 1801, the Kandyan kings others are gold, iron, and precious finally disappearing voluntarily, 1815. The Roman and Greek name for C. was Taprobane (copper-leaf). about 4,000,000. See Tennent, Ceylon, 1860; Leclercq, L'ile de Ceylon, 1900; Skinner, Fifty Years in Ceylon, 1801; Cave, Ruined Cities of Ceylon, 1891; and The Book of Ceylon, 1908; Ferguson, Ceylon in 1903; Müller. Ancient Inscriptions Ancient Inscriptions in Ceylon, 1883-4; Haeckel, A Visit to Ceylon; Parker's Ancient Ceylon, 1909; Willia's Ceylon, 1908. For language and literature see Alwiz, Sinhalese Roman Characters, Handbook in 1880; Geiger, Litteratur und Sprache der Singhalesen, 1901. C. is also the name of several post-villages of N. America.

Cerimbra, a tn. on the coast of Portugal, 20 m. S. of Lisbon. Fishing extensive. Pop. 9000. Chabas, François Joseph (1817-82),

a French Egyptologist, born near Briancon. In 1873 he was offered the chair of E but he refus

toire de la l and Etudes & . d'après les

See Copieston, Binanism in Cenon. sensor there, and in 17th obtained an 1892. Next in importance are the important post at Alfort, finally becaming (a Dravidic people), forming coming director of the school there, about a quarter of the pop. They are in 1780 he succeeded Bourcelat as mostly adherents of Brahmanism, director and inspector of veterinary These Tamils, or Malabars, are probably sprung from early invaders of C. who came frequently from S. France and numerous other learned Hindustan. The remainder are societies, and words several valuable mostly Mohammedans or Moormen.

Chabeuil, a French tn. in the dept. of Drome. It stands on the Veoure, S.E. of Valence. It is supposed to be the ancient city of Cerebelliaca. Pop. about 3000.

Chablais, a former prov. of Savoy (old division of Annecy), bordering on Lake Geneva. Now included in French dept. Haute-Savoie. arrond. of Thonon. In the middle ages it had counts and dukes as rulers.

Chablis, French tn., dept. of Yonne, about 9 m. from Auxerre, on R. Serein. Noted for famous white wine (chablis) produced near by.

about 2300.

Chabot, Charles (1815-82), an English lithographer and caligraphic expert. He was born at Battersea and died at Clapham. His skill as a caligraphist was much in demand at the law courts; he gave evidence in the he died he left his opera celebrated Roupell and Tichborne unfinished. cases. He identified Sir Philip Francis as being the author of the Letters of Junius.

Chabot, François (1759-94), a French revolutionist. Originally a Capuchin monk, but became an atheist of corrupt and vicious character. In 1790 he became a member of the Constituent Assembly, and gained great power as an extreme and fanatical democrat, instigating many of the worst excesses committed by the party, and being noted for his daring, blasphemy, and disgusting immorality. He was finally guillotined by order of Robespierre.

Chabet, Philippe de (1480-1543), a French soldier and Count of Charny and Buzançois. Known as L'Amiral de Brion. In 1524 he saved Marseilles from the Imperialists, and in 1525 was made a prisoner at Pavia. He was made governor of Burgundy and admiral of France in 1526, after which he conquered the greater part of Piedmont. He later on fell into disgrace and was imprisoned for two

years in 1539.

Chabrias famous (Χαβρίας), a Athenian general, commander of army as early as 392 B.C. In 390 took part in the Thracian expediti of Thrasybulus. In 388, on his way to Cyprus to help Euagoras against the Persians, he defeated the Spartans at Ægina. In 378 C. commanded against the Spartans and drove Agesilaus from Bœotia, inventing the famous manœuvre of receiving a charge on the left knee, with shields restling on the ground and spears levelled at the foe. In 376 he won the naval victory at Naxos; 373 went Inhicrates to Corcyra; 369 fought against Thebans in Peloponnesus, repulsing Epaminondas before Corinth; 367-6 was accused of treason for solo violin is the most famous. over the Theban capture of Oropus,

but was acquitted. In the Social War (357) he joined Chares in command of the Athenian fleet, and was killed as trierarch at the siege of Chios. enophon,

itæ Iphi-1845.

eI (1841-1894), a French musical composer. He was born at Ambert in the dept. of Puy-de-Dôme. In 1877 he wrote L'Etoile, and in 1883 Dix Pièces Pittoresque for the piano. He was chorus-master at Château d'Eau in 1884-85 where he played at concerts. While there he assisted Lamoureux to pro-While duce two acts of Tristan and Isolde. He also brought out La Sulamite in 1885, and also selections from his opera Guendoline, which was done as a whole in Brussels in 1886.

Chabron, Marie Etienne Emmanuel Bertrand de (1806-89), a French general and politician, born at Retournac (Haute-Loire). He served with distinction in the Crimean War, the Italian War

the battle of

German War a general of division by Gambetta for the relief of Blois. At the close of the war he was elected deputy for

Haute-Loire, and later became a senator. Chachapoyas, or San Juan de la

Frontera, a tn. in Peru, cap. of Amazonas, situated 80 m. N.E. of Cayamarca, Pop. 6000.

Chacma, or Cynocephalus porcarius, the largest species of baboon (q.v.), belonging to the family Cercopithecide (q.v.), and is nearly allied to the mandrill. It is a native of S. Africa, and in habit it is gregarious. Although largely vegetarian in diet, omnivorous at times and is fond of insects.

Chaco, a ter. in the Argentine Republic, which is part of the Gran Chaco, S. of the Bermejo R. Timber , but cattle

also carried ncia, which

is also the governing centre, and is 400 m. N. of Buenos Ayres. The area covers 52,471 sq. m. Pop. about

24,000.

Chaconne (Fr.), a dance, propably of Italian origin. It was once extremely popular, but now it is utterly forgotten and neglected, possibly because the movements thereof were The music was slow and stately. generally a number of variations on a ground bass of eight bars. Bach, Handel, and Porpora all wrote music for this dance, of which the C. of Bach

Chad, the name given to the young

born in Northunder.

follower of St. Aidan. He became
Bishop of the E. Saxons in the year
664, Bishop of York in 666, and then

Mercia in 669. He was a

holy and very austere man. Chad, Tchad, or Tsud, Lake, or rather two large but shallow lakes, surrounded by swamps, in W. Africa, situated between Bornu, Bagirmi, Kanem, and Wadai. The total length from N. to S. is from 120 to 150 m., while from E. to W. it is estimated at from 60 to 130 m. The lake is studded with islands, and the depth is from 8 to 15 ft. The area varies according to the season, if it is wet it covers to the season, if meaning the state 20 000 cm, and if dry 10 000 about 20,000 sq. m., and if dry 10,000. Lake Chad gets most of its water from the Shari, but it also gets the waters of the Yobe and Yeou. There are many fish to be found there, and it is also frequented by

inhabited by the piratical Baduma

and Kuri tribes.

Chadderton, a par. and tn. of Lancashire, England, suburb of Oldham. Has important cotton and chemical manufactures, and coal-mines near. Pop. about 28,000.

Chaderton, Laurence (c. 1536-1640), an English theologian, born in Lan-cashire; studied theology at Cam-bridge, in opposition to his father, who wished him to enter the law; and in 1584 was chosen by Sir Walter Mildmay as master of the newly re-founded Emmanuel College. He as-

sisted in the A.V. of the Bible.
Chaderton, William (c. 1540-1608),
an English divine. After holding several important positions at Cambridge, he became bishop of Chester in 1579, being also appointed a com-missioner for the discovery and conviction of popish recusants. In 1595 he was appointed bishop of Lincoln, where his efforts were still directed

towards conformity.

Chads, Sir Henry Ducie (c. 1788-1868), British naval commander, son of the naval captain (d. 1799); left Royal Naval College, Portsmouth, 1803, to join the Excellent, under Captain Sotheron. In 1810 he took part in the operations off Mauritius, being one of the party that seized the being one of the party that seried the last et a Passe (src James, Naval History, 1860). First lieutenant of the Java under Captain Lambert when captured by United States frigate Constitution, 1812. Tried by court-martial for loss of this ship, 1812.

of a fish—the common sea-bream—by Alligator, 1825, throughout the first the fishermen of Devon and Cornwall.

Chad, St., or Ceadda (d. 672), was born in Northumbria and was a In 1845-54 captain of gunnery-ship follower of St. Aidan. He became Excellent at Portsmouth. Served in the Baltic, 1854; commander-in-chief at Cork, 1856-58; vice-admiral, 1858; admiral, 1863. He warmly supported naval charities at Southsea, His son (1819-1906) was also an admiral. See O'Byrne, Naval Biourrows), Old 1869: of 1812.

Chadwell, St. Mary, par. of England, in Essex, on R. Thames, 101 m. from Romford, 11 m. from Tilbury Dock station. Contains the E. and W. India

deep-water docks. Pop. 6429.
Chadwick, Sir Edwin (c. 1801-90),
English social reformer and statistician. He came from Manchester to London, studying at the Inner Temple, called to the bar. 1830. He early studied social, sanitary, and political

prevention of pauperism In 1828 his article 'On nce' in the Westminster

Review appeared; 1829 a paper 'On Preventive Police' in the London Review. These won him the notice and friendship of Jeremy Bentham. In 1834-47 he became secretary to the Poor Law commission. From evidence collecte

wrote Report dition of the Great Britain

of 1833 laid the foundations of later systems of government inspection. A public health Act was passed in 1848, and a general Board of Health appointed. C. was a member from 1848-54. He was one of the founders

cconomy questions (c. 1844). C. advocated competitive examinations for government offices. See Richardson's Chadwick, 1885; Dictionary of National Biography, Supplement i.; Mackars, History of the English Poor Law, 1899.

Cherea, Caius Cassius, Roman tribune of the prætorian cohort in Caligula's reign. He formed a conspiracy and assassinated that emperor, 41 A.D. Shortly afterwards he was executed by Claudius. See Tacitus, Annales.

Chæronea, an ancient Greek city (Χαιρώνεια) of Bœotia, famed for the victory of Philip II. and Alexander of Macedon over Athenians and court-martial for loss of this ship, Thebans, 338 B.C.; also for Sulla's 1813, but honourably acquitted defeat of the army of Mithridates, Commanded the Arachne, 1823; the 86 B.C. This city was Plutarch's birthplace. Its ruins are near the present Arenicola, the lob-worm; Aphrodite, village of Kapræna, consisting of a the sea-mouse; and Chatoptems; temple, an aqueduct, and one of the most perfect remaining Greek theatres. A colossal lion over the sepulchre of the Bœotians who fell in 338 B.C., mentioned by Pausanias, ix., was found much mutilated. was restored and re-erected, 1905. See Murray, Handbook for Greece, 1884; Thuc. iv.; Plutarch, Alex-Thuc. iv.; Plutarch, and Sulla in his ander Lives: Kromayer, Antike Schlachtfelder in Griechenland, 1903.

Chærophyllum, a genus of Umbelliferie, flourishes in N. lands of ate climate. C. tumulum. temperate climate. closely allied to the celery, parsnip, and carrot, is the chervil which is sometimes used as a pot-herb.

Chætoderma, a genus of gastropod molluses, forms by itself one of the two families in the division Aplaco-The species, of which there phora. are three found in the Atlantic, Arctic, and Pacific Oceans, are cylindrical, covered with bristly spicules, and the

sexes are separate.

Chætodon, a genus of spiny-rayed fishes of the family Chetodontidæ or Squamipennes. The body is laterally compressed and elevated, the snout is fairly long, the mouth is furnished with closely-set rows of long, slender, bristle-like teeth, and there is one dorsal fin. The species are often reaching the being black.

metallic blues

and greens. Their food consists of small animals, and they are very The numerous adroit fiv-catchers. species often frequent coral reefs, and are most often found in the Indian and American seas, the Atlantic and Pacific Oceans.

Chætognatha, a very small division of marine animals, consisting of the three genera, Spadella, Khronia, and Sagitta, the arrow-worm. The species are fins

trer are carnivorous. The largest of these

creatures is about 21 inches. segmented worms, in which the se or bristles, are very noticeable. chatopods are then divided into

marine, with extremely few exceptions, and in most of them the sexes are distinct, while the second order is composed of hermaphrodite creatures which generally inhabit fresh water Among the or live underground. former may be mentioned the genera law at Columbia, becoming barrister,

among the latter occur all the earth-

worms, e.g. Lumbricus and Megascolules. Chætopterus, a genus of annelid which is noted for its green phosphor-

escent glow. It is a curiously-shaped worm which inhabits a long tube. C. varionedatus is found on British coasts

and in all European seas.

Chaier, the name applied popularly to beetles of the family Scarabæidæ which consists of about 13,000 species. The males have norms, and many of the perfect beetles and larvae destructive to vegetable life. The term is usually compounded with another, e.g. cockchafer, barkchafer, rosechafer.

Chaffinch, or Fringilla cœlebs, pretty, active little bird of the family Frinzillide, and is related to the sparrow, canary, and buntings. The cock-bird is a favourite songster, and from his note the Germans call him fink, from which we derive the word finch; his specific name is obtained from the habit of the sexes of living apart in winter, the females migrating

Beluchistan.

Chagny, a tn. of France, N. border of dept. Saone-et-Loire, 10 m. from Châlon-sur-Saône, 9 m. from Beaune. Has trade in wine, railway workshops, and quarries. Pop. about 4500.

Chagos Archipelago, a scattered group of coral reefs and islets in the Indian Ocean, S. of the Laccadine and Maldive groups. Area about 150 sq. m. A dependency of the British colony of Mauritius. The most important cluster are the Oil Is., with Grand C., or Diego Garcia, in the S.E. This island has a good harbour, is a coaling station, and exports much cocoanut oil. It is on the route of Australian and Red Sea steamers. Other islands are Peros, Banhos, Danger, Egmont, Landers Is. Pop. about 1000 and Solomon. Three Brothers Is. (700 in Diego Garcia).

Chætopoda, a class of Annelida, or Chagres River, in S. America

ising in San 30 m. from

Panama, flowing into Caribbean sea. Navigation is hindered by its falls and extreme swiftness, which also presented one of the main difficulties in constructing the Panama Canal. The Panama Railway follows a part of its course.

Chaillé-Long, Charles, an African explorer of French parentage, born at Baltimore 1843, graduated at Washington Academy, 1860; studied 1880; served in the Confederate They are employed to confine, bind, army, 1862-5; went to Egypt and was made lieutenant-colonel by the Khedive, 1870. In 1874 he became chief of Gordon's staff, and went on a mission to King M'tesa of Uganda. Obliged owing to plots to return to Gordon at Gondokoro, he managed to explore Lake Victoria and the country round, the course of the Somerset Nile, and Makaraka and Nyam-Nyam countries. As United States acting consul at Alexandria, 1882, he protected many Europeans and Americans. United States consul-general, 1887-9; secretary of legation in Korea, charge d'affaires, 1897-8; United States special commissioner to Paris Exposition, 1900. He has been decorated with many medals and honours for services as explorer and soldier. Among his works are: Les Combattants Français; Les Sources du Nil; L'Egypte et ces Provinces Perdues; Central Africa . . , 1876; The Three Prophets, 1886.

Chailletaceæ

Chailletaeeæ, an obscure natural order of Dicotyledons flourishing in the tropics. The inflorescence is cymose, the flowers are hermaphrodite or unisexual, the calyx, corolla, and andrecium are in parts of five, the gyneceum consists of two to three united carpels, and the fruit is a drupe.

Chaillot, formerly a vil. in the immediate neighbourhood of Paris on the R. Seine. In 1659 it was called the suburb of 'la Conference,' because the Peace of the Pyrenees was decided upon after conferences there. Before the Revolution there were two monasteries at C. In 1786 it became part of the precincts of Paris. The popular expression 'ahuri de Chaillot' (of unknown origin) meant a fool, simpleton; 'envoyer à Chaillot,' envoyer promener.

Chaillu, Paul du, see Du Chaillu. Chain, or Gunter's Chain, a measur-ing-line in land-surveying, of 100 links (iron or steel rods, 7.92 in. long). Hence a lineal measure of 22 yds. Ten square chains make 1 acre 4840 sq. yds.). A surveyor's chain now is more commonly 100 ft. long

(Ramsden's chain)

Chain, Chain Cables (Lat. catena), a series of links of metal, or other material, so connected as to form a flexible band. Cs. are of very ancient origin, but the number of different uses to which they can be put has been largely increased in modern times. Some of the oldest uses are as ornament (collar, bracelet, cf. modern watch chain), as a symbol of office (cf. modern knight, mayor), and as fetters for prisoners or slaves, hence any kind of shackle or bond, or figuratively a restraining force. Cordage was used for many purposes now served by Cs.

fasten, or connect together various objects, to lift weights, to transmit a mechanical power. These last are known as pitch-Cs. In some Cs. the links are composed of a single piece of metal (oval-link hoisting-C.), in others the links are made up of several separate pieces (bicycle-C.). These pieces are connected by bolts, rivets, or stud-screws, so formed as to engage with the teeth of a sprocket wheel. They are partly machine and partly hand-made. Cs. differ greatly in structure, according to the shape of the links (stud-Cs., open-link Cs., twisted-link Cs.), the mode of uniting them, and the purpose for which they are intended. They are sometimes loosely divided into hand-made and machine-made C. Ornamental Cs. may have a large variety of links, but those for useful purposes are mainly of two types: (1) Stud Cs., in which a transverse stud or brace is inserted in each link to keep the sides from collapsing under strain; (2) open-link Cs. with no stud. The first are much stronger, increasing the load a C. can bear by about 50 per cent. Small Cs. are often made by machinery, but larger ones are usually made by a smith and entirely hand-wrought. Crane Cs. and ships' cables, etc., are always hand-made from rolled bar-iron. The weld is commonly at the end of the link, but for large cables presses may be used to bend the link, or power hammers for welding, the weld sometimes being at the side. Weldless Cs. machine-made ones, factured from cruciform steel bars pressed while hot into links with no join (Strathern's process). They are mostly made in small sizes for cowties, dog-Cs., or fence-Cs. Strong Cs. can withstand a breaking strain of many tons. C. cables have to undergo severe tests before passed by the

the links are made. A 2-in. stud C cable must withstand a test-load of 72 tons. For fall the principle see Kent, Well and I received Pocket Book, 1991. Charty be conby extension for any series of events or arguments connected in logical sequence. It also means a mountainrange. In certain breeds or pigeons it is the collar-like ruff of neck feathers. As a nautical term it means the contrivance to extend the basis of the lower shrouds of a mast, consisting of dead-eyes, C.-plates, and C.-wale ('channel').
Chained Books. The custom of

chaining books to stands or readingdesks was very common in various

parts of Europe in the 15th and 16th | right to preside, and in the case of centuries. A library, fitted with reading-desks made with an iron rod along the top to which the books were fastened by a chain, was founded at Zuiphen, 1561, and is still to be seen. Later, as the number of books increased, upright book-shelves were set up (very much as in modern libraries) and the books so arranged in them as to show the fore-edges on which the titles were written. Sloping desks were placed in front of the shelves, and chains were fastened to the books long enough to allow of their being placed and consulted on the corresponding desks. All Saints' Church, Hereford, still possesses a library of this kind dating from 1715. Its cathedral library is an earlier example of the same system. In the example of the same system. In the reigns of the Tudor kings, Henry VIII. and Edward VI., orders were given for Bibles and copies of the Paraphrases of Erasmus to be chained in the parish churches. These books, together with Foxe's Book of Marlyrs and works of Jewell (d. 1571), may still be found in old churches with their chains attached to them. The practice was discontinued early in the practice was discontinued early in the 18th century. It was doubtless first introduced because the scarcity of books made them very valuable. See Blades, Books in Chains, 1892; Clark, The Care of Books, 1901.

Chain-mail, a flexible, defensive body-armour of hammered metal links, much used in Europe in the 12th and 13th centuries, and still in India and the interior of Asia. The links or rings were interlaced and connected by riveted links, so that each embraced four others, and wrought into the form of a garment. Though more convenient to the wearer than plate-armour, it was less adapted to withstand a lance's thrust.

Chain-plates, in shipbuilding strong plates or bands of iron fastened to the ship's side under the chainwale, to which are attached the dead-eyes or (more recently) rigging-screws, to which the standing rigging and shrouds are fastened. In architecture, a series of connected plates built into walls to give greater strength.

Chain-shot, an obsolete form of projectile, invented by Admiral de Witt in 1666, consisting of two shot

Chairman, the presiding officer at the meeting of any assembly, association, or company, whether convened for public purposes or for the transaction of the private business of mittee members. When a meeting is chair, assembly the second of the private business of mittee members.

many public meetings, the name of the C. is previously announced in the notice convening the meeting. In the absence of the foregoing, or where the C. selected by the conveners of the meeting is challenged, the meeting should put the call to the chair to the The president or C. of the House of Commons is elected at the beginning of every new parliament, and is called the Speaker. The principal function of a C. is the maintenance of order, and on taking the chair a C. is consequently invested with authority to control and regulate the proceedings of the meeting. Generally speaking the duties of a C. are to decide points of order, put motions to the vote. call upon speakers to address the meeting, regulate the discussions, call upon the stewards or managers (if any). or the members themselves to eject interruptors without unnecessary violence, sign and secure the proper framing of the minutes, and adjourn The Speaker of the the meeting. House of Commons gives rulings as to procedure, names members guilty of disorder, reprimands members and other persons if necessary, and signs warrants of commital for contempt. Speakers at a meeting must always address the chair. Unless previously selected to speak, when he will be called upon to do so by the C., a member desiring to speak must rise at the end of another member's speech. If two or more rise simultaneously, the one that 'catches the C.'s eye' should be called upon; but the C. may call upon whom he will. The office of C. may not be an easy one to fill. The ideal qualities in a C. are urbanity, the most unimpeachable impartiality, and a clear perception of the fundamental rules of debate. In calling speakers to order his function is to keep a discussion within legitimate or relevant bounds. In the case of meetings of public bodies it is obvious that public time can only be saved by confining speeches to the questions on the agenda. The C. is the sole judge as to whether any speech, resolution, or amendment is in order. When any resolution or amendment is proposed and seconded the C. is bound to put connected by a chain or bar, and used the resolution or amendment to the to destroy the enemy's rigging. C. may have a second or casting vote. Chairman of Committees, the officer

who takes the chair in the House of Commons when the House is in Committee and the speaker 'vacates the assembled the first thing to be done whole parliament. To the C. of C. is for the chair to be taken. Some belongs the duty of superintending person present may have a statutum call matter addition. person present may have a statutory all matters relating to private bills.

year. Where the speaker of the House of Commons was absent from parliament the C. of C. took his place, but for the last ten years a deputy-chair-

man has been appointed.

Chaise, originally 'a chair,' from the French, whence sedan-chair; then by transference a light, wheeled vehicle Sometimes loosely used for any kind of pleasure-carriage. Usually a twowheeled carriage for two people, with a calash top and the body hung on straps; drawn by one horse (cf. han-The post-chaise of the 18th and 19th centuries was a closed, fourwheeled vehicle, with two or four horses.

Chalabre, a tn. of France, situated in the dept. of Aude, arron Limoux. It stands on the R. Lers, and lies S.W. of Carcassone. Pop. about 2000.

Chalaza, a term in botany used in describing the internal structure of the oyule. The C. is the base of the the ovule. The C. is the base of the nucellus, a mass of parenchymatous tissue, from which the integuments

arise.

Chalcedon (Καλχηδών), properly Calchedon (now Kadikeui), an ancient Greek city of Bithynia on the Bos-phorus, opposite Byzantium, S. of Scutari. It was a Megarian colony, founded 685 B.C. For long it vacil-lated between Athenian and Lace-domonian interests. Attalus III. of bequeathed it to the Pergamus Romans, 133 B.C. Partly destroyed by Mithridates, it was recovered Calchedon was under the empire. frequently ravaged by barbarian hordes, such as the Goths (A.D. 256) and Persians under Chosroes (A.D. 616-26). In A.D. 451 the Fou General Council was held here determine the ecclesiastical ju diction of the sees of Rome and I' About a quarter of zantium. population are Moslems; there i large British colony. Pop. ablarge British colony. Pop. ab. 30,000. See Yon Hammer, Constanti-towns, Clynthus and Potidea, were nopolis, 1822; Murray's Handbook famous in Greek history.

been a green stone, w C. is a milky white or

line, but ocmammillary,

a fibrous stru 6.5 and specific gravity 2.6. It occurs in cavities in volcanic rocks, where it has been deposited out of solution in water, as in the basalt of N. Ireland, Iceland, the Faroe Isles, etc. Occasionally specimens are found with a drop of water in the interior, and other insects the chalcids are often

The salary of the C. of C. is £2500 at these are much prized as ornaments. C. has been worked by jewellers from early times, and variegated forms are differentiated as agate, onyx, jasper,

bloodstone, carnelian, etc.

Chalcedonyx, a specially marked variety of chalcedony, a mineral composed of quartz of a milk-white colour caused by the presence of opal. C. usually has greyish markings, which give it, when polished, an ornamental value. it being used for making brooches and vases.

Chalchicomula (San Andrés), a tn. of Mexico, state of Puobla, 25 m. from Orizaba, near the foot Orizaba peak. Pop. 7000. Chalchihuit

name for a kind

stone, quarried prized by the ancient Mexicans. Probably it was a green variety turquoise, or else a kind of jade. was valued above gold, carved into rude figures and polished, or made into beads and ornaments. Figures were found in tombs, and the brooch fastening Montezuma's robe was of

chaichihuitl.

Chalcides, the name of a large genus of lizards in the family Scincidee. The species are pleurodont lizards with bony plates on the head and body, a scaly and feebly-nicked tongue, elongated and sometimes serpentiform body, the limbs wanting or little developed, and the lower eyelid has They inhabit transparent disc. S.W. Asia and the Mediterranean. Ch. ocellatus attains a length of about 10 inches.

Chalcidice Peninsula, a district of he Thermaic nic (Rendina) t divides into

ito the Ægean and Acte (with from Chalcis

Chalcedony, or Calcedony, a precious stone of the commoner sort, deriving its name from Chalcedon, a city of or a modern church); a columned Bithynia in Asia Minor. The ancient mineral, however, appears a green stone or a green stone or a modern church); a columned thall or covered portice in front of the mineral, however, appears a green stone or covered portice in front of the contract of contains the contract of contract of contains the contract of contra

houses it was the part desguests or receptions. consisting of silica.

basilicas they were sidequartz in not being definitely crystal- annexes on each side of the tribunal.

So called from Chalcis in Eubwa, which apparently first had such structures. The basilieus of Eumactria at Pompeii, and of Constantine at Rome, had a C. placed at one end. See Gell, Pompeiana, 1832.

Chalcididæ, a large family hymenonterous insects of parasitic habit. By feeding on the larve of of benefit to man, and in the process of caprification, or fertilisation of figs, they are most valuable. Some of the species make galls.

Chalcis, a typical genus of the curious family of hymenopterous insects, Chalcide. The family contains numerous species of tiny parasites from a which prey on the larvæ of galls, on caterpillars, on bees and beetles, but 1843. also on many destructive insec

they are thus of considerable to man. C. flavescens is a

which is native to tropical America, and a remarkable allied species is Blastophaga grossorum, a diminutive insect which assists in caprification or the fertilisation of the cultivated fig.

Chalcis (Negropont), anct. seaport of Greece, cap. of Eubœa, on the Euripus at its narrowest part, 17 m. from Thebes, 35 m. from Athens, to which it was subject in 5th and 4th centuries B.C. In early times it was a flourishing seat of commerce and manufactures (metal-work, purple, pottery), and a great colonising pottery), and a great comsing centre. The three-pronged per Magazine of Chalcidice, projecting from Macedonia into the Ægean, took its name from colonists from C. Cumæ and Naxos were also colonised from there. Naxos were also colonised from there. In the 7th century it defeated Eretria in the Lelantine War, becoming chief city of Eubœa. Both Antiochus III. (192 B.C.) and Mithridates VI. (88 B.C.) used C. as a base for invading Greece. C. was important in the middle ages; called Egripo by the Greeks, Negroponte by the Italians. It has mediæval walls and towers, buildings of Venetian construction. buildings of Venetian construction, and mosques mostly converted into Christian churches. In 1894 an earthquake did much damage. Since 1904 a railway connects C. with Athens and Pireus. Pop. about 16,000. See Herodotus, v.; Thucydides, i.; Leake, Travels in Northern Greece, ii., 1835; Strabo, vii., x.

Chalcondylas (Chalcondyles), Demetrius (c.1424-1510), a learned Greek grammarian of Athens. On Lorenzo de Medici's invitation he went to Florence and taught there, his pupils including that prince's sons, Grocyn, Linacre, and Latimer (1480-92). Pro-fessor of Greek also in Perugia, Rome, and Milan. The first printed edition of Homer was edited by C. (1488). His Greek grammar, Erotemata, appeared about 1493. He also edited Isocrates (1493) and Suidas (1499). See Giovio, Elogia; Börner, Programma de D. Chalcondule. 1711: D. Chalcondyle, gramma de Italy, Renaissance inSymond's

1875-86. Chalcondylas (Chalcondyles), Laonicus or Nicolaus (d. 1464), an able Byzantine historian of the 15th century, son of an Athenian noble, relative 1899.

1889;

NU uni

(perhaps brother) of Demetrius C. (q.v.). During the siege of Constantinople (1446) Laonicus was ambassador from John VII., Palæologus, to Sultan Murad II. He wrote History of the Turks and of the Byzantine Empire and Fall of the Greek Empire, from 1298-1463 (De Origine et Rebus Gestis Turcorum), edited by Bekker. The name sometimes appears

See Fabricius. Von Hammer, Ottoman. ns (perhaps from

Assyrian kasâdu, to conquer), strictly a prov. of Babylonia, bounded by the lower course of the Euphrates, the head of the Persian Gulf and the Arabian desert. Its capital was Bit-Yakin, chief seat of Merodach-baladan, who harassed Sargon and Sen-In O.T. Chaldrea, Kasdim, is used in a wider sense to mean the whole empire of Babylonia (Gen. ii., Jer. i. 51). Ezekiel (xxiii.) includes certain foreign nations as well. Another name is Mat Tamti The Chaldmans were (Sea-land). probably a Semitic people from N. Arabia or the Kurdish uplands, and were the ruling class at Babylon as early as the 8th century B.C. Nabopolassar, or Nabuapaluzur (c. 626-604), and his successors made Baby-lonia a world-power. From this time onwards the terms Babylonians and Chaldmans became more and more interchangeable, till finally they were considered synonymous as in the Hebrew writers. Labashi Marduk Hebrew writers. was the last Chaldean king (556); the Babylonian Nabunaid succeeded According to some him (555-38). the Chaldmans were a mixed race of Babylonians and Kassites or Cossæans. Besides being used as a racename for Babylonians, Chaldwans in the Book of Daniel (2nd century) astrologers. astronomers, mathematicians, and even magicians. mathematicians, and even magicians. This sense also appears in Herodotus, Diodorus, and Strabo. Xenophon's 'Chaldmans' (Anab. vii.) were an entirely different people from the Euxine. The Chaldman language seems to have been more like the Arabic or Babylonian than like the Arabic or Aramaic. Daniel, however, speaks of the language of the Aramaic as 'the language of the Chaldmans.' Hence, when the Babylonian tongue was superseded Aramaic, Jerome wrongly called the latter 'Chaldee,' and this name was kept till quite recently. See Delattre, kept till quite recently. See Delattre, 'Les Chaldéens' in Revue des questions' in the see 1896: Brinton, Protestions' tions m tohist ın-Asia. te. gen : iel, of 16 bolls or 64 firlots of corn (96 bushels). For lime or coal it varied from 32 to 64 Imperial bushels. Still used in computing the stipends of Scottish ministers.

Chaldir-gol, a lake in Transcau-casia, 35 m. from Kars. Length, 12 m.; maximum breadth, 10 m.; area about 33 sq. m.; maximum depth, 140 ft. It abounds in fish (carp, trout, etc.), and is frequented by

water-fowl.

Chaldron (another form of cauldron), an English dry measure; in London 36 heaped bushels, or its equivalent weight, nearly twice as much at Newcastle. Now only used for coal and coke (formerly only 32 bushels). In U.S.A. a C. is about 2940 lbs.; in New York, 2500. See Diary, iii.; Steele, Tatler, Pepys' No. 73.

Chalet (3 diminutive of casella), a Swiss word, said to have been introduced into France by Rousseau. Originally a wooden hut or cabin in the Swiss mountains, where cattle are lodged in summer, and cheese is made. Extended to a Swiss peasant's small cottage, a herdsman's hut or wooden house. Applied now to any picturesque villa built in imitation of

that style.

Chalcurs Bay (Baie des Chalcurs), a sheltered inlet of the Gulf of St. Lawrence, Canada, between Gaspé Peninsula and New Brunswick. Quebec is on the N., New Brunswick on the S. The bay is about 90 m. from E. to W., maximum breadth 25 m. There are good mackerelfisheries. Shippegan and Miscou Is. are near the entrance. Discovered by Cartier in 1535, it was named from the intense heat of the season. Chalfont St. Giles, parish of Buck-

Wycombe inghamshire. England, there during the plague (1665-66), finished Paradise Lost, and wrote part of Paradise Regained. His cot-

Chalford, an ecclesiastical dist. and vil. of Gloucestershire. England, 4 m. from Stroud, 11 m. from E. Brins-Has dyeworks and combe station. broadcloth manufactures. Pop. 3000.

Chalgrove (' chalk entrenchment '). par. and vil. of Oxfordshire, England, ahout 7 m. from Oxford, and 4 m. from Watlington station, Henley div. In 1643 the Parliamentarians were crushed here by the Royalists under Prince Rupert, Hampden being mortally wounded. Pop. (1911) 364.

Chalder, an old Scottish dry measure, drinking-cup, goblet, or bowl, but in this sense now only used in poetical language. Applied especially to the cup used in celebrations of the Holy oup used in celebrations of the Holy Communion. Formerly it could be made of any material (the 'Luck of Edenhill' preserved in the family of Musgrare, near Penrith. is of glass), but must now be of gold, silver, or silver-gilt, and consecrated by a bishop in accordance with a prescribed form. It must be touched only by those in holy orders. The paten served as a chalice-cover and also to carry the wafer or bread. The C. is the emblem of St. John the C. is the emblem of St. John the Evangelist. The use of the 'mixed C.' (water mixed with wine in the Eucharist) in Roman Catholic and Oriental churches dates from very early times. See Justin Martyr. Apologia, i.

Chalicotherium, a genus of fossil pachydermatous animals, belongs to the extinct Ancylopoda, and has been discovered in the Miocene of Eppelsheim, near Mayence. Its limbs are tridactylate, and in dentition it lacks incisors, and has no canine teeth in

the upper jaw. Chalina, a genus of Porifera, received its name from the naturalist Grant. The sponge is represented in Britain by C. oculata, the mermaid's

glove.

Chalk, a soft, white variety of limestone. As found in the S. and E. of England, it is white or yellowishwhite in colour, easily broken, though it varies considerably in compactness. Flints of various sizes are found embedded in the C., usually in fairly definite layers; otherwise it consists of calcium carbonate, with some admixture of silica, alumina, and magnesia. C. consists of the shells of minute animals called foraminifera. Different forms of these animals exist div.; 3 m. from Chalfont Road in all parts of the ocean, and are station and Amersham, 10 m. from capable of developing shells for them-Windsor. Penn is buried in the selves from the calcium compounds Friends' cemetery near. Milton lived found in the sea-water. When the animals die, the shells combine with other debris to form an ooze on the ocean bed. At various periods in the rage is still preserved and shown, earth's history, such masses of ooze, Pop. (1911) 1762. into rock, have risen above sea-level, and thus we find that underneath the most recent formations, a vast mass of C. exists throughout a great part of England and in those European coasts separated from England by the sea. The chalk formation extends from the wolds of Yorkshire, with characteristic rounded hills and white sea-cliffs, to the N. and S. Downs in Kent, running westward until they merge in Salisbury Plain. Owing to its soft nature, the C. provides gently Owing to Chalice (Lat. calix), originally any undulating scenery, a fine thin soil in

which abundant grass grows suitable been done, and a declaration for sheep pasture, while the solution ('chalking' been written out a of the carbonate leaves behind numerous flints. Water in such localities is generally hard, owing to the amount of calcium carbonate in solution. The C. is used for building purposes when found hard enough, and the fints are used for building and road making. When subjected to a bright heat, C. loses its carbon dioxide, and calcium oxide, or quicklime, is formed. When mixed with water, the hydrate or slaked lime, is, produced, and this, mixed with three times its bulk of sand, forms the mortar used to cement bricks together. Lime is also much used as a manure, as it hastens the decomposition of organic constitu-ents of the soil. C. burnt with certain proportions of clay provides different forms of cement, which harden with more or less rapidity according to the proportions of their constituents. C. is treated with acids to produce the carbonic acid gas required in the preparation of erated waters, etc. When the C. is triturated with water, and the fine particles allowed to fall in a fairly homogeneous mass, the resulting product is whiting, used as a pigment and a polishing medium. An artificial C. is prepared by adding sodium carbonate to a solution of calcium chloride, when a fine precipitate forms. This product, known as precipitated C., is used in medicine as an antacid and astringent, and serves as a tooth-powder and as a pigment. Substances somewhat similar in consistency to the carbonate are known as Cs. Black chalk is a soft schist containing carbon; red chalk consists of iron ore and clay; French chalk is a variety of steatite, or soapstone.
Chalkeley, Thomas (1675-1741),

After a varied and adventurous youth, he began preaching at pine, Isos-iv. Calicani Nares was Quaker meetings, and in 1697-98 naval commander of the vessel, the visited the Puritan American colonics. In 1700 he returned to America; in 1701 took a preaching tour to the Barbadoes, and between then and 1710 visited Ireland, Scotland, Eng-land, Holland, and Germany. The rest of his life was mainly spent in preachi-~

America, His collec and 1790.

Chalking the Door, a mode of giving tenants notice of removal (especially) among the poorer classes), known and still in use in Scotland. The chalk-mark is made by a burgh officer in the presence of witnesses on between Admiralty Is. and Japan, 'the most patent door,' on the proprietor's verbal order. This is done forty days 'before Whitsunday,' or the date on which the tenants are expected to leave. When this has 50 vols. (Zoology, Botany, Deep-sea

written out and signed by the officer and two witnesses, he may demand the ejection of the tenants six days after the expiry of the forty days. See Hunter

on Landlord and Tenant. Challemel - Lacour, Paul Amand (1827-96), French publicist and statesman, graduated at l'Ecole Normale. 1849; professor of philosophy at Pau and Limoges. In 1851-54 banished by Napoleon III. for his independent, republican opinions, he went to Belgium, and then taught in Zürich. Returning to France (1859), he became a liberal journalist. In 1868 he established the Révue Politique, with Brisson and Gambetta, who made him prefect of Lyons, 1871; deputy, 1872; senator, 1876; ambassador to Switzerland, 1879; to England, 1880-82. In 1883, under Ferry, he was minister of foreign affairs; in 1890 becoming vice-president, and in 1893 president of the senate. C. founded the République Française with Gambetta, becoming editor-in-chief. Member of French Academy, 1893. He wrote philosophical works: La Philosophie Individualiste, 1864; transla-tion of Ritter's Geschichte der Philosophic, 1861. He also edited Madame d'Epinay's Works, 1869. He was an eloquent orator, representative of republicanism and anti-clericalism. His Œuvres Oratoires appeared in 1897.

Challenge, see JURY. Challenger Expedition, a scientific exploration sent out by the British government (1872-6) for experiments in deep sea soundings and the ions of life

Antarctic H.M.S. of the he Porcu-

scientific staff being under Professor Wyville Thomson. Every kind of scientific appliance was supplied for sounding the depths, mapping the basins

and oceans Santa

Among numerous places on the route were Madeira, Canaries, West Indies, Nova Scotia, Cape Verde, Fernando Noronha, Cape of Good Hope, Mel-bourne, Hong Kong, Japan, Val-paraiso, Magellan Straits, Portsparaiso, Magellan Straits, Portsmouth. The deepest sounding was between Admiralty Is. and Japan, 4575 fathoms. See Official Reports on the Scientific Results of the Voyage Deposits, Physics, and Chemistry, etc.), 1880-95. The narrative occupies 2 vols. (1882-5). Consult also Moseley, Notes by a Naturalist, 1879; Spry, Cruise of H.M.S. Challenger, 1876; and works of W. Thomson, Murray, Campbell, and Wild.
Challis James (1822-82). Foolish

Challis, James (1803-82), English astronomer and physicist, educated at Trinity College, Cambridge. Senior wrangler, first Smith prizeman, 1825; ordained 1830. In 1836 Plumian professor of astronomy and experimental philosophy, and till 1861 director of the observatory of Cambridge University. His labours were largely directed to determining the positions of the sun, moon, and planets, so as to increase tabular accuracy. Among his valuable improvements were the collimating eye-piece (1850), the transit-reducer, and the meteoroscope. He contributed largely to scientific publications, and also produced independent works on astronomy, physics, and mathematics, among them being Astronomical Observations (1832-64) at Cambridge observatory; Mathematical Principles of Physics, 1873. See Adams, James Challis; Monthly Notices R. A. Soc., Xiiii.; Dict. of Nat. Biog., ix.
Challoner, Richard (1691-1781), an

English Roman Catholic divir cated at the English college at

1704; professor of philosophy 1713-20; vice-president and professor of divinity, 1720-30. C. returned to London, becoming coadjutor to Petre, titular bishop of London, 1741, suc-ceeding him in 1758 as vicar-apostolic. ceeding him in 1758 as vicar-apostolic. He was bishop of Debra in Libya, 1741. During the Gordon riots he took refuge in Highgate. He published theological and polemical works, among them Church History; Grounds of the Old Religion; The Garden of the Soul, 1740; The Rheims New Teslament and the Douay Bible, with Amplations 1749-50. His veril Amplations 1749-50. with Annotations, 1749-50. His version of the Douay Bible is substantially that since used by English-

stantially that since used by English-speaking Catholics. C. also translated The Imitation of Christ, 1706. See Barnard's Life, 1784. Chalmers, Alexander (1759-1834), Scotch biographer and editor, edu-cated in Aberdeen. He edited several newspapers in London (Morning Herald'), contributed to regionalizate. newspapers in London Herald), contributed to periodicals, but chiefly wrote prefaces for new editions of English classics (Shakespeare, Fielding, Gibbon, Burns, speare, Fielding, Gibbon, Burns, Pope). He edited Johnson's British Poets. His British Essayists (Tatler to Observer), in 45 vols., is still useful. His Glossary to Shakespeare appeared in 1797. His fame chiefly rests on his General Biographical Dictionary, 1812-17.

Chalmers, George (1742-1825), a

Scottish antiquarian and historian. educated in Aberdeen and Edinburgh, Emigrated to America, 1763, practising law in Baltimore till the Revolution. From 1786 was chief clerk of the Board of Trade in London. His chief work is Caledonia: an Account, Historical and Topographical, of North Brilain (1807-24). Other works were biographies of De Foe, Thomas Paine, Mary Queen of Scot (1818), Collection of Treaties (1790), and works on the colonies.

Chaimers, George Paul (1833-78), a Scottish painter, in early life a surgeon's errand-boy, then apprentice to a ship-chandler. He determined to become an artist, coming to Edinburgh, 1853, and studying under Scott Lauder. Orchardson, Graham. Pettie, and others were among his fellow-students. Among his first works were small figure pieces in oil, Student,' and 'The Smoker.' 'Favourite Air' won notice, C. went on sketching tours in Brittany and N. Hebrides. A.R.S.A., 1867: R.S.A., 1871. His colouring is rich and powerful, his portraits very good. Figure pieces gave him some trouble, but his later ones show great improvement. His beautiful landscapes mostly appeared in his later years,

End of the Harvest,' Water,' 1875. Other Legend' (Edinburgh

Legend '(Edinburgh National Gallery); 'Prayer,' 1871, both etched by Rajon; 'Threescore Years and Ten' (R.A., London, 1875); 'Knitting,' 1876; 'The Love Song,' The Potato Harvest.' See Memoir, 1879; 'Art Journal, April 1873. Chalmers, James (1841–1901), a Scottish missionary, served in Glasgow City Mission, passed through Cheshunt College, and was appointed by the London Missionary Society (1866) to work in Raratonea Island (1866) to work in Raratonga Island in the S. Pacific. He worked there for ten years, especially training native evangelists, and called by the natives 'Tamate.' Then he was transferred to New Guinea. Besides zealous missionary work, C. and Lawes (his colleague) did much as explorers to open up the land, and helped in establishing the British protectorate. C. and Tomkins (another missionary) were murdered by cannibals at Goaribari Island. See R. L. Stevenson on J. Chalmers; Autobiography and Letters, edited by Lovett, 1902;

Chalmers, Sir Mackenzie Dalzell (b. 1847), English barrister and writer, educated at King's College, London, and at Oxford, Barrister, 1869; revising barrister, 1881; Indian Civil Service, 1869-72. He has held many legal positions in England, among them that of counsel to the

Lovett, Tamate.

Board of Trade, 1882; judge of elected moderator of the General counts, 1884; acting chief Assembly of the Scottish Church, and justice at Gibraltar, 1893; member of Royal Commission on Viviscotion; legal member of the council of Indla's governor - general, 1896-99; first parllamentary counsel to Treasury, 1902-3; succeeded Digby permanent under-secretary of state for the Home Department, 1993-8, Chairman of S. Nigeria Liquer Enquiry: one of Home Office Committee on coroners and deaths under amesthetics. C. contributed articles to the Dictionary of Political Economy, and to Encyclopædia Britannica. Ho also published Digest of the Law of Bills of Exchange, and of The Law of Sale. K.C.B., 1906.

Chalmers, Dr. Thomas (1780-1847). Scottish theologian and economist, one of the most eminent figures and influential preachers of the 19th century. His powers of eratory were so great that Jeffrey ranked him with Demosthenes, Cicero, Burke, and Sheridan, Educated at St. Andrews University, he began preaching at nineteen. From 1803-15 was minister of I' tim

cal but of i fils

Drowstor 8 tlanuv for Bannourga Encuclopædia (1810), his spiritual nature was aroused, and he became an enthusiastic paster. In 1815-20, as infulster of Tron parish, Glasgow, he tried to remedy the ignerance and vice of his parish, making experiments in parochial organisation, which may be said almost to have suggested inodern methods of dealing with the dependent classes, as seen in charity organisation societies and in settlement work. See Masterman, Chalmers on Charily, 1900. divided the parish into twenty-five districts, and established two week-day and numerous Sunday schools. His Astronomical Discourses appeared in 1817, and were very popular. His visit to London was enthusiastically 1 Civic

> ared in irs told onuo nt St.

convener of the church-extension committee (1834). Cases of conflict between the church and civil nuthority arose in Auchterarder, Dunkeld, and Marnoch. In 1813, owing to these internal troubles, 170 clergy-men, headed by C. left the church and founded the Free Church, claiming for it spiritual independence. C. was made principal of the Free Church College. He devoted much time to the attempt to abolish pauperism round about Edinburgh. HIS Institutes of last work was Theology. Other works are : Inquiry into the Extent and Stability of Resources ; Evidence and National Authority of the Christian Revelation; Commercial Discourses; Treatise on Political Economy, 1832 : Defence of Church Establishments, 1838. His posthumously 1847-49. See Hanna's postatimously 1841-49. See tuning 8 Memoirs, 1849-52; Buchanan's Ten Years' Conflict, 1849; Annals of the Disruption, 1876-7; Mrs. Olphant's Thomas Chalmers, 1896; Blatkie's Life, 1897; Ency. Bril.; Taylor Innes's Law of Creeds in Scotland,

: 1867. Chaloner, Sir Thomas (c. 1520-65). English statesman and writer, educated at Oxford, sent by Henry VIII. as ambassador to Charles V., whom he sastrous ex-

hlef clerk of thted for his

1517. Asa Protestant he was driven from office in Mary's reign. Elizabeth sent him as ambassador to the Emperor Fordinand I. of Germany, 1558, to Philip II, at Courtray, and as minister at the Spanish court, 1561. Among his works are Office of Servants (trans-Inted from Cognetus, 1543); translation into English of St. John lation into Program Lindauranda, 1544; De Anglorum Lindauranda, 1514; Miscellaneous (Latin) Poems, Carmen Panegyricum, 1560; and translation of Erasmus's Praise of Folic, 1549. See Biographia Bri-

Chaloner, Sir Thomas - (c. 1561-1615). English naturalist, son of the statesman, father of Edward, James, Andrews: 1828 of theology at Edn. and Thomas the regicle (d. 1662), burch. In 1827 appeared the Use A favourite of James I., he came and Almse of Literary and Reclesias- with him to Emdand after a visit tical Endowments; in 1833

of the education ' Prince Henry, He school at

3. scholarships A Short Disertue of Nitre. alum-mines at Belman Bank, Guisborough, about 1600.

Chalonnes-sur-Loire, a tn. in the dept. of Maine-et-Loire, France, 12 m. S.W. of Angers. The chief trade is in wines and grain. There are mineral springs in the neighbour-C. possesses the ruins of a bood.

hood. C. possesses the ruins of a 12th-century château. Pop. c. 2000. Châlons-sur-Marne, the cap. of the dept. of Marne, France, 107 m. E. of Paris by rail, situated on the r. b. of the R. Marne. C. is a garrison town, surrounded by old walls. Its houses are old and built of timber, and the cathedral of Saint Etienne, famed for its altar, dates back to the 13th century. C. has some handsome public buildings—the hôtel-de-ville, communal college, museum, and library. munal college, museum, and library, etc .- and a fine park, the Promenade du Jard. It has trade in woollens, leather, grains, oil, and champagne, but the manufacture of 'shalloon,' a kind of worsted cloth, mentioned by Chaucer, has fallen into disuse. was known to the Romans as Catalaunum; it was the site of the defeat

Châlon-sur-Saône (ancient Cabillonum), the cap. of an arron. in the dept. Saône-et-Loire, France, situated on the r. b. of the R. Saône at its junction with the Canal du Centre. There are fine quays along the riverside, and the town has a prosperous trade with the Atlantic and Mediter-Its chief manufactures are class, pottery, paper, hosiery, and jewellery; there are also copper and iron foundries and shipbuilding works.

Pop. (1901) 29,058.

Pop. (1901) 29,058.
Chalus (Castrum Lucii), a tn. of
France in Haute-Vienne, on R.
Tardoire, 17 m. from Limoges. The
upper town contains ruins of the
castle where Richard I. was mortally
wounded, 1199. Near by is the ruined
fortress of Montbrun. Pop. (commune) 2500.

einrich Chaly Moritz sophical vears: sophy at Kiel University, dismissed owing to his Germanic sympathies. His chief work is System der speculative. 1850. In 1836 he published Historical Entirelation of Punjab, British India, also of Punjab, British India, also chief town of this state on the Ravi.

Chalybeate Springs are naturai mineral waters in which iron pre-dominates. The iron is generally combined with carbonic acid, in the form of protoxide or proto-carbonate, or with sulphuric acid, in the form of sulphate of iron, and the springs. therefore, can be subdivided into carhonated chalubeate and sulphated chaluheate.

Chalybes (Gk. Χάλυβες, from χάλυγ, steel), an Asiatic people who lived in Pontus, Asia Minor, S.E. of Black Sea. Famed as ironworkers, whence our word 'chaly beate.' Also a people near the headwaters of R. Euphrates

in ancient times. Cham (Fr. for 'Ham,' son of Noah) (1819-79), pseudonym of the brilliant caricaturist, Amédée Charles Henri, Vicomte de Noé. He studied under Delaroche, Charlet, and Lanny, and won fame for depicting the humorous side of contemporary Parisian life, his first album Calembours, betiese, jeux de mots tirés par les cheveux, appearing 1842. In 1843 he first became connected with Charivari, and of the Huns by the combined forces in this and the Journal des Pélériof Romans and Goths in 451; it nages his drawings continued to suffered at the hands of the English appear till his death. His master-(1430-34) and of the Prussians (1814), pieces are chiefly social, but he also (1430-34) and of the Prussians (1814), pieces are chiefly social, but he also and in 1870 was taken by the Germans during the Franco-Prussian War, when MacMahon withdrew from the famous camp of C., formed by Londres. For collections of his comic Napoleon III. in 1856. Pop. (town) sketches see Douze Années Comiques, 12,290, (commune) 26,737.

Châlon-sur-Saône (ancient Cabilland) There are also examples in Sala's lonum), the cap. of an arron, in the Paris Herself Again, 1882. Consult dent Sabne-et-Loire France situated Riberts Chum. 1883 Ribeyre, Cham, 1883.

Chamæleon, a small southern con-stellation near the South Pole be-tween Hydrus and Argo, announced by Bayer in 1603.

Chammleon, see CHAMELEON.

Chamærops, a genus of palm-trees, consists of only two species, both Mediterranean plants, and C. humilis having the peculiarity of being the only European palm. In Britain it is frequently cultivated in hothouses, where it grows to a height of 15 ft., but in Spain it grows in the open to about 4 or 5 ft. only, and in Italy it is smaller still. The trunk is 5 or 6 in. in diameter, and the fan-like leaves grow in a tuft at the top.

Chamalhari, or Shumalari, a peak sinrich of the Himalaya Mts., between Tibet philo- and Bhutan, E. of Sikkim, 140 m. some from Mt. Everest, rising above the philo- main route from India to Gyangtse.

at the foot of the Himalayas, 120 m. of office depending on that of his from Lahore. Bounded by Kashmir political party. A vice-C. as deputy territories N.E., Kangra and Gúrdas- and assistant has existed from the pur on S. Produces wheat, millet, time of Richard II. Other staterice, Indian corn, hops, wax, nuts, honey, and timber. Iron ore and slate quarries abound. A favourite resort of sportsmen, it contains the sanatorium of Dalhousic. British

Area, 3180 sq. m. Pop. 128,000.
Chambal, a riv. in Central India, trib. of the Jumna R., rises in the Vindhya Range (2019 ft.) and flows 650 m. in a N.E. direction to its junction with the Jumna, 90 m. S.E.

of Agra. Chamber, of a fire-arm, is the term applied to the lower end of the bore of a gun, howitzer, or mortar, where is placed the charge of powder by which the shot or shell is projected Cs. are now made larger in diameter than the bore, since the charges used have become heavier.

Chamber of Shipping of the United Kingdom. An association of British shipowners organised to furnish reports for parliament on the progress of shipping affairs and to facilitate the maritime work of the government. thirty shipowner

offices are at 5 Leadenhall Stre

Chamberlain, an officer attached to the court of a monarch, appointed by a king, nobleman, or corporation to perform domestic and ceremonial duties. In Great Britain this office dates from very early times. The C. was one of the chief officers of state from the 13th century; 1406 Parliament declared that he must be a member of the council ex officio. share in

ment, ar case, he

high standing in the royal household. The Lord C. has control over all officers, servants (except those of the bed-chamber), physicians, musicians, comedians, and tradesmen connected with the royal household. In 1782 he became the provider of state-robes for the royal family, household, and officers of state. Cards of admission to royal functions (levées, drawing-rooms, balls) must be obtained from him. He inderses the king's answer on petitions, and often communicates His Majesty's pleasure to parliament and the council. Theatres in towns containing a royal palace have to be licensed by the Lord C.; no new play can be performed without his sanc-tion. Much discussion has lately been raised on this point (see CENSORSHIP OF THE DRAMA). The examiner of plays is a leading member of his staff. His salary is £2000 a-year, tenuro Mason); Japanese Poetry, 1910.

officials are the Lord Great C., and City C Du Ca

and ' Law e 1896

Chamberlain, Lord Great, an hereditary sinecure office, historically descended from the ancient C. of the Exchequer department of the Norman period. The office was formerly of the highest dignity, and was held in grand serieanty. The L. G. C. is now the sixth great officer of state, and the duties of the office are mainly concerned with coronation ceremonics. To the office also appertain the care of the king's palace at Westminster, authority over buildings of the two Houses over the Parliament during recesses, and the duty of attending on peers at their creation, and bishops when they per-form their homage. The element of 'serjeanty,' or personal service, is preserved by the L. G. C.'s theoretical The chamber consists of a society of right to dress the king on coronation and to serve the king with water

ore and after the banquet. ore and after the banquet. The ce, which became hereditary on the grant by Henry I. to the family of De Vero, Earls of Oxford, has been the subject of two legal contests within the last 150 years. Towards the end of the 19th century it was still held conjointly by the families of Cholmondeley and Willoughby d'Eresby, in right of their mothers, who were sisters and co-heirs of the fourth Dule of Angester but is now fourth Duke of Ancaster, but is now Hence he had originally considerable in the joint tenure of the Marquis of lmondeley, the Earl of Ancaster.

the Earl of Carrington. On the mation of Edward VII. the honorary functions of the office were by mutual agreement committed to the

care of the Marquis of Cholmondeley. Chamberlain, Basil Hall (b. 1850), English scholar, born at Southsea. Hampshire. Educated in France and by a private tutor in England. Holds the appointment of emeritus professor of Japanese and philology at the university of Tokyo. Among his publications are: The Classical Poetry of lications are: The Classical Poetry of the Japanese, 1880; A Romanised Japanese Reader, 1886; The Language, Mythology, and Geographical Nomenclature of Japan viewed in the Light of Aino Studies, 1887; Handbook of Colloquial Japanese, 1907: Practical Introduction to the Study of Japanese Writing, 1905 (2nd ed.); Things Japanese, 1905 (5th ed.); Murray's Larga Cird and subsequent Murray's Japan (3rd and subsequent editions in collaboration with W. B.

Chamberlain, Houston (b. 1855). Anglo-German author, born at Portsmouth, Hants, is a lecturer on philosophy at the Vienna University. The results of his study of modern thought and civilisation are embodied in his remarkable book Die Grundlagen des Jahrhunderts. neunzehnten. translated into English in 1910. 1896 he published a most appreciative biography of Wagner, for whom he has also shown his admiration in Drama R. Wagners. Among his other works are: ersten 20 Jahre der Bayreuther Büh-nenfestspiele, 1896; H. von Stein und seine Weltanschauung, 1903; and Kant, 1905.

Chamberlain, Joseph, British statesman, was born in London on July 8, 1836. He was the eldest son of Joseph C., a well-to-do business man, who was a Unitarian by religion and a man of advanced political ideas. Joseph C. was educated at Canonbury and at the London University School. On leaving school he spent a short time in his father's office in town, and then left for Birmingham, where he joined his cousin, Joseph Nettlefold, in the screw business. His keen business methods and his undoubted ability ensured the progress of the firm. New methods were intro-duced into the business, and com-petition was successfully cut down by means of a series of amalgama-tions. The result of this keen business ability was that at a very early age Mr. C. was able to retire from business and take an active interest in public life. During his stay in Birmingham, he had taken more and more interest in local politics, and when he retired from business in 1874 he was able to devote most of his time to these. He had married in 1861 a Miss Kenrick, who died in 1863, and later, in 1869, he married again a Miss F. Kenrick, a married again a MISS F. REHIGE, a first cousin of his first wife. He was already recognised as one of the leaders of Liberal ideas in Birming-ham, and had been instrumental in establishing a Liberal Association in the town. He also took a prominent part in the educational movements of the time. In 1870 he became a member of the Birmingham School Board, and three years later, the chairman. His politics at this time were usually given the name of re-publican, not because they actually advocated the principles of re-publicanism, but because they were so advanced and so Radical that they

occupied for the succeeding three Birmingham dates a great vears. deal of her importance back to the days of his mayoralty. Great municipal reforms were carried out during his period of office. A magnificent library and an art gallery were built, public recreation grounds were opened, slums were pulled down, and spacious and well-paved streets took The prosperity their places. Birmingham rose very rapidly indeed. The rise of Mr. C. as a leading reformer in municipal matters had not passed unnoticed throughout the rest of England. Already he was marked as a coming man, the fame of his reforms was spread about, his utter-ances were taken up by the press, and in addition to his popularity as mayor of Birmingham he was also well known throughout England. In 1874 he contested a parliamentary seat in Sheffield, but without success. However, two years later, Mr. C. became the colleague of Mr. Bright in the representation of Birmingham. Hitherto his work had been confined to Birmingham, now he rapidly advanced towards the front ranks of the Liberal party. Almost simultaneously with his entrance into public politics, his ability and worth were recognised. He showed his organising ability by the manner in which he organised the Liberal Association throughout the country, an organisation for which both he and the Liberal party were recompensed in the general election of 1880. when the Liberals were returned with a clear majority over both the Con-servatives and the Nationalists. In the Liberal government of 1880, Mr. C. was given the position of the President of the Board of Trade, with cabinet rank, and Sir Charles Dilke, another leader of the Radical section. became Under-Secretary for Foreign Affairs. In 1883 he carried his Bankruptcy Act, and throughout the whole of his tenure of office he supported democratic ideas. In 1885 he put forward what was called the 'Unauthorised Programme,' that is a programme which went far beyond the conception of the Liberal party. He had up to this time supported the Liberal party on questions of foreign policy, and more especially Irish policy. He advocated also free education and small holdings, the famous phrase 'three acres and a cow ' exemplifying the latter policy. In 1885 Gladstone's ministry was so advanced and so fadical that they in 1885 easily outdistanced even the most defeated. At the elections which liberal ideas of the formal Liberal followed the number of Liberal party. He took a prominent part members was decreased, and it bealso in the municipal affairs of came necessary to depend on the Birmingham, and in 1873 he became Irish vote for a majority. Mr. C. was mayor of Birmingham, an office he returned for W. Birmingham, and in

Jan. 1886 Lord Salisbury's govern-1893 he took the most prominent ment was defeated. Already it was part in opposing the Home Rule known that Mr. Gladstone was going to introduce a Home Rule Bill, but Mr. C. accepted office as President of the Local Government Board. In March he resigned, giving as his reason that he was unable to accept the measure which Mr. Gladstone had laid before Salisbury included a number of the cabinet, that he still supported a Liberal-Unionists. This was the first large extension of large extension for Ireland, but cou

lengths proposed. to get Mr. Gladstone to amend his bill, but finally, when it became obvious that the measure would come up for its second reading in practically its original form, serious steps were taken by Lord Hartington and Mr. C. At a meeting of the followers of Hartington and C., it was agreed that the dissentient Liberals must vote with the Tories against the bill, and this was done. The bill was rejected by a majority of thirty, ninety-four Liberal-Unionists, as they now began to be called, voting with the majority. Even yet reconciliation with the Liberals was not impossible. A round-table conference was held, the idea being put forward by Mr. C., but it came to nothing; a working basis could not be found, and the split in the party became more definite. The feeling of the Liberals, not unnaturally, was deep and bitter against Mr. C., and one member at least did not refrain from calling him Judas. The Liberal-Unionists rapidly became more and more separated from the Gladstonian Liberals, and they adopted a definite policy for them-selves. They decided that it was selves. They decided that it was necessary under every consideration to keep Gladstone out of office, and they supported the Tories with that end in view. They did not, however, yet take office with the Tories, and their influence was rather widening in Tory policy. The Tory government passed measures which up to this time had been regarded solely as

measure introduced by Mr. Gladstone; a measure which passed the House of Commons but was rejected by the Lords. In 1895 the Rosebery government was defeated, and the govern-ment which was formed by Lord ties. Mr. C. became Colonial

 The period 1895-1900 was ever, not yet any definite break with one of great difficulty, especially in the party; constant efforts were made the matter of colonial affairs, and more especially in S. Africa. The Jameson Raid did not help the strained feelings which existed between the British government and the Boers, and the whole difficulty was often assigned by his political opponents to Mr. C. and his desire for personal aggrandisement. Every step in the negotiations of 1899 was attributed to personal feeling on the part of the Colonial Secretary. War broke out in 1899, and in 1990 Mr. C. received vindication in the result of the election which followed. During this period of office he had also passed the Australian Commonwealth Act (1900). During the years of office Mr. C. had advocated the policy called Imperialism. He had never subscribed to the same narrow limits of the Gladstonian foreign policy, and his tenure of office as minister for the colonies had taken his ideals from the purely national point of view and widened them to the imperial point of view. During the war he was the hero of his party, and by his firm policy and his unswerving support of the war did much to enhance his reputation. In 1902 Mr. Balfour became Prime Minister, and Mr. C. continued to serve under him. He visited S. Africa in the same year, and did much to smooth over the bad feeling which still existed. But he had become essentially a colonial minister, and he regarded from the broader point of view all issues. During the war a corn tax had been levied, and part of the Liberals. In 1887
Mr. C. became one of the British

Mr. C. became one of the British

Mr. C. became one of the British

Mr. Ritchie now proposed to take the ax off. Several of the members

Unionist party were in favour retention altogether. Mr. C. the remitting of the tax of the colonies, but its s far as foreign corn was emitted, but

there were the party on le. No open

turned for his old the Liberal-Unionis le. in a minority and Mr. Gladstone split took place until the following again became Prime Minister. In year, when Mr. C. put forward the

given the freedom of

In the same year he mar

wife (Miss Endicott

election of 1892

main ideas of Tariff Reform at Birmingham. He held that it was impossible to inaugurate a system whereby we could help our colonies without a revision of our present tariff system. The movement found support and opposition. Some political economists issued manipolitical economists issued matti-festoes in favour of it, more issued manifestoes against it. The party itself was divided, and on Sept. 15. Mr. C., pleading for a free hand, re-signed. Mr. Ritchie and Lord George Hamilton, the stauncher free traders. also resigned at the same time. Mr. C. resigned merely to become the pioneer of the movement which he advocated and not from any sense of hostility towards his friend and hostility towards his 'friend and leader' Mr. Balfour. Mr. Balfour's attitude on the question was more or less philosophic, and he was claimed by both sections of his party. however, made it clear that he was in favour of a measure of tariff reform for purely retaliatory purposes. Mr. C. spent the years 1903-1906 in travelling throughout the country advocating his system of tariff reform. He was attacked on every side, and his party to all intents and purposes, if not openly, was divided seriously on the question. The with-drawal of Mr. C. from the cabinet, and the advocation of these new measures contributed to the downfall measures contributed to the downfall of the government, which resigned in Dec. 1905. The election which followed was to a very great extent the result of the differences in the party. Mr. C. insisted on the adoption of his principles, and the Unionist party was overwhelmed at the elections. Mr. Balfour after the elections pledged himself to Tariff Reform, which since then has been the principal plank of the Unionist. the principal plank of the Unionist platform. In the middle of 1906, after he had received an overwhelming ovation from his fellow citizens on his seventieth birthday, Mr. C. was taken ill, and although at first it was hoped that he would recover sufficiently to return to parliament, the hope was in vain. He still retains his seat for W. Birmingham, but has not taken a

under July ary he eneral,

Lord Londonderry, in the Lydse of Commons (1906-2). C. was appointed Chancelor of the Exchequer on the reconstruction of Balfour's cabinet, 1903-6. He married in 1906,

Chamberlain, Sir Neville Bowles (1820-1902), a British field-marshal, born at Rio de Janeiro, Brazil. He entered the Indian army in 1837 and took part in the Afghan War (1839-42) at Ghazni, Kandahar, and Kabul, and the stream of the stream and was wounded on six occasions. He fought at Maharaipur in the Gwalior campaign of 1843 and in the Punjab campaign of 1848, after which he was made commandant of which he was made commandant of the Punjab military police. In the Indian Mutiny (1857) he distinguished himself at Delhi, where he was severely wounded. He was in command of the Umbeyla campaign (1863), and from 1876-81 was commander-in-chief of the Madras army. He retired in 1886, and was made a feet a street in 1890. See Life by (1, Vi. 1675, 1716).

Charles Charles Hellan (b. 1860), a phaywes the commander Sydney, New South Wales, Australia. Educated

South Wales, Australia. Educated in New South Wales and entered its Civil Service, 1875. Settled in England, 1882, and became journalist, story-writer, and finally dramatic author. His plays include: Caplain Swift, The Idler, The Honourable Herbert, The Old Lady, John-a-Dreams, The Tyranny of Tears, The Auakening, The Golden Silence, Sir Anthony, Passers-by. Part author of The Fatal Card, Boys Together, and The Days of the Duke.

Chambers (or Chalmers), David, Lord Ormond (c. 1536-92), a Scotlish judge and historian, educated at Civil Service, 1875. Settled in Eng-

judge and historian, educated at Aberdeen, then studied theology and rain. He still retains his seat for W. Aberdeen, then studied theology and Birmingham, but has not taken a prominent part in the deliberations of the party since his illness. Like all session (1565). A partisan of Mary strong men Mr. C. was the object of intense admiration and dielike, and it is safe to eay that no English politician of his time aroused such strong political passions.

Chamberlain, Rl. Hon. Joseph Austen (b. 1863), an English statesman, eldest son of the Rt. Hon. Joseph (C. (b. 1836). Educated at Rugby and Scotland, becoming again the delitions, constituency he still continues to sit.

Chamberl-Unionist member for E. Grossais en France, ii.

Chambers, Ephraim (1680-1710), an

William IV. and Queen Adclaide. He was a member of the Society of Painters in Water-Colours, and exhibited from 1827 to 1840. Three of his pictures of naval battles are in Greenwich Hospital, viz. 'The Capture of Portobello,' The Bombardment of Alger,' and the 'Destruction of the Fronch Fleet at La Hogue.' Chambers, George Frederick, J.P., F.R.A.S. (b. 1841), educated at Brighton, and entered the Inner Temple. In 1873 he became an assis-

Brighton, and entered the Inner Temple. In 1873 he became an assistant inspector of the Local Govern-ment Board; in 1887 an assistant

school. In 1818 he started business as a bookstall keeper in Leith Walk,

English encyclopædist, born at Kendal. As a young man he was apprenticed to a map and globe maker in London. In 1728 he published by subscription his Cyclopædia, or an Universal Dictionary of Arts and Sciences in competition with Harris's Lexicon Technicum, 1704. C.'s work reached its fourth edition a year after his death, and gave rise to the Encyclopædie of Duderot and d'Alembert. Chambers, George (c. 1803-40), a marine painter, born at Whitby, Yorkshire. He was the son of a fisherman, and in early life was apprenticed to the master of a trading briz. He soon showed a talent for painting, and his little sketches of shipping scenes found a market in Whitby. His ambition, however, drew him to London, where he received employment as a scene-painter at the Pavilion Theatre. He also worked on the panorama of London at the Coliseum. His work received the appointment of marine painter to William IV. and Queen Adelaide. He was a member of the Society of Painters in Water-Colours, and existing and critical history of the literature lited; the Life and Works of Robert Annals of Scotland, 1859-61. He also worked contributed 'Histories of the Society of Sendiand, 1859-61. He Scottish Rebellions' (1828-9) to Convenius and existence as mould beet suit the popular taste were large factors in the success of the paper. He wrote large factors in the success of the paper. He wrote large factors in the success of the paper. He wrote large factors in the success of the paper. He wrote large factors in the success of the paper. He wrote large factors in the success of the paper. He wrote large factors in the success of the paper. He wrote large factors in the success of the paper. He wrote large factors in the success of the paper. He wrote large factors in the success of the paper. He wrote large factors in the success of the paper. He wrote large factors in the success of the paper. He wrote large factors in the success of the paper. He wrote large factors in the success of the paper. He wrote large factors in the success of the Scandinavia and Canada for purposes Scandinavia and Canada for purposes of geological exploration, the results of which are contained in Tracings of the North of Europe, 1851; and Tracings in Iceland and the Faroe Islands, 1856. In 1844 he published, anonymously to avoid bringing an accusation of heterodoxy upon his firm, Vestiges of the Natural History of Creation, which anticipated the theories of Darwin's Orbitain of Species. theories of Darwin's Origin of Species. The authorship was acknowledged in tant inspector of the Local Government Board; in 1887 an assistant
learning the boundary commissioner for England
and Wales; served on several town,
brough, and county councils, etc.;
laws, and he was elected a member
in 1895 became a member of the
Canterbury House of Laymen, and in
1904 of the Representative Church
Council. He is a well-known public
speaker on Conservative and ecclesiastical matters. His works include
Handbook of Astronomy, 1890 (4th
edition); Pictorial Listronomy, 1909;
The Story of the Sun, etc., 1895-1912; lore; Scottish Ballads and Songs, 1829;
Astronomy for Amateurs, 1912; a Romatint Scotch Ballads and Songs, 1829;
Astronomy for Amateurs, 1912; a Romatint Scotch Ballads with origin Alexander Ireland's preface to the The Slory of the Sun, etc., 1895-1912; lore; Scottish Ballaus and songs, 1829; Astronomy for Amaleurs, 1912; a Romantic Scotch Ballads with original raluable digest of Local Government and Airs. 1844; Songs of Scotland laws (1873-99), and several text-books prior to Burns, 1862; and a Life of on that subject; and guides and Scott, 1835. See W. Chambers's Chambers, Robert (1802-71), a Scottish publisher and author, born at 1884); Slory of a Long and Busy Life, Peebles and educated at the local 1884, by William Chambers; and school. In 1818 he started business James Payn's Literary Recollections, 1884.

Chambers, Robert William (b.1865), two founded two founded to the published Traditions in of Edinburgh, which won him the clints that the published Traditions is the published Traditions in the clints to the published Traditions to t of Edinburgh, which won him the clude: In the Quarter, 1895; The King compire, 1899; The Conspirators; began to study architecture in Italy Oulsiders; The Cambric Mask; and Paris. He remodelled Somerset; Cardigan; The Maids of Paradise, House (1776), designed the pagoda 1903; The Fighting Chance, 1907; and other buildings in Kew Gardens The Firing Line, 1908; Some Ladies (1762), and was first treasurer of the in Haste, 1908; The Green Mouse, Royal Academy (1768). His Treatise Mark; The Common Law, 1912. lecture is a standard text-book. His Also two plays, one of which, The Witch of Ellangouten was written for the Common Constitution on the Decorative Constitution of Ellangouten was written for the Constitution of the Constitut Witch of Ellangowan, was written for Oriental Miss Ada Rehan.

Chambers, William (1800-83), Scot-In tish publisher, born at Peebles. 1813, owing to family misfortunes, he was apprenticed to a bookseller in Edinburgh. Five years later he started business for himself, afterwards adding printing to the bookselling, and was soon joined by his brother Robert. In 1825-30 he wrote the Book of Scotland, and collaborated with Robert in a Gazetteer of Scotland. In 1821-2 he started a fortuightly journal called *The Kaleidoscope*, and im 1852 issued the first number of Chambers's Edinburgh Journal, the pioneer of the cheap popular periodical. After the issue of the fourteenth number Robert became coeditor, and the prosperity of the journal rapidly increased. This led to the founding of the firm of W. & R. Chambers and the issue of a series

Course, including Eng

of (20 (12 -(10)reiss

firm, 1888-92 the estate c shire, and in Institution.

Institution, museum, an chamber of Glasgow was institutive Lord during which he promoted several ber was founded in 1785, Dublin chamburord, at his own cost, the cathedral in 1786, Manchester in 1734, Belfast stored, at his own cost, the cathedral in 1796, Birmingham in 1813, New-of St. Giles. He was offered a castle-upon-Tyne in 1818, and Liverbaronetcy, but died before the title pool in 1851. The London chamber, leady was sounded in 1795. could be conferred. Besides his contributions to the Journal and the Educational Course, William C. wrote: Tour in Holland and the Rhine Countries, 1839; Things as they are into m in America, 1854; History of Peeble-departs shire, 1864; France: its History and mittee. Revolutions, 1871; Ailie Gilroy, 1872; the me Slories of Old Families and Remark-ments, othe Persons. 1873; a

able Persons, 1878; a Sketch of St. Giles' Cc See article on ROBERT .

Chambers, Sir William (1726-96), an struction of the Suez Canal, and advo-

in Yellow, 1895: The Red Republic, English architect, born at Stockholm. 1896; Lorraine, 1896; Ashes of As a boy he went to sea, but in 1744 Empire, 1899; The Conspirators; began to study architecture in Italy

the satir William Chambers, in which William Mason and Horace Walpole probably took part. Consult his Life by T.

Hardwick (1825). Chambers of Commerce, associations of merchants, bankers, and others associated with trade for the purpose of promoting trade interests directly and by appeals and representations in the government. These associations also furnish statistics with reference to the districts to which they belong, and comparative in 1832 issued the first number of statistics of tradegenerally. A C. of C. Chambers's Edinburgh Journal, the may also be called upon to decide issues in mercantile questions. oldest C. of C. is said to be that of Marseilles, which was founded in the 14th century and acted as a court of arbitration in mercantile affairs. the beginning of the 18th century

Chambers, and the issue of a series chambers were organised at Lyons, and the issue of a series chambers were organised at Lyons, and Toulouse, Bordeaux, etc., but abolished at the close of the urr. At the beginning of the 19th for the People was published in 1833; century these C. of C. in France were in 1835 appeared the Educational re-instituted. The objects of the Course, including the contract of the chambers are to readistic the chambers are the chambe ich chambers are to mediate

he purpose to advise orks whose

affect the 1embers of ted by the

merchants of the district selecor that purpose by the prefect. oldest British chamber is that of y, which was founded in 1768.

though most important to-day, was only instituted in 1881. The London C. of C. numbers more than 3000 members. The chamber is divided into nunerous departments. Each departm mittee.

the mea

Trade; it petitioned the con-

cated the control of the telegraph down to Louis XV., and of Marshal system by the post-office. The Man-Saxe, Diane de Poitiers, Stanislaus chester chamber was energetic in the Leszczynski, King of Poland, and cause of Free Trade. Throughout Marshal Berthler, who had it con-Great Britain there are now similar bodies in all the important mercantile centres. An association of C. of C. of the United kingdom was instituted in 1860, and membership is entirely voluntary. The general association meets in London in March of each year, and the decisions of this assembly have great weight in parlia-There are also independent ment. British C. of C. in foreign countries. e.g. at Paris, Alexandria, Brussels, and St. Petersburg. In the British colonies there are also important C. of C. in the important mercantile centres. Congresses of colonial and British delegates are held from time to time, and thus contribute to give an opportunity to the colonial boards to appeal to the home chambers.

Chambersburg, a tn., cap. of Franklin co., Pennsylvania, U.S.A., 50 m. S.W. of Harrisburg. The town has many fine buildings, among which is Willson College for girls. The trade of the town is extensive, and among its chief manufacturing industries are leather, cotton, and woollen goods, iron utensils, paper, and furniture; it has also large locomotive works. In 1864 a portion of the town was destroyed by the Confederates. Pop.

(1900) 8864.

Chambertin, a rare red Burgundy produced from the vineyard of Chambertin in the dept. of Côte-d'Or, France, about 6 m. S. of Dijon.

Chambery, the cap. of the dept. of Savoie, France, situated, amid beautiful scenery, in a valley 6 m. S. of Lake Bourget. The town contains some interesting old churches and a 15th-century cathedral. The castle of the dukes of Savoy was destroyed by fire, but was restored at the beginning of the last century and is now used purposes. The manufacand soap. ture Pop. (tn.) 15,683, (com.) 22,108.

а Chambon - Feugerolles, manufacturing tn. in the dept. of Loire, France, situated in the vicinity of St. Etienne. It manufactures swords and other military appur-tenances. Pop. (1901) 11,528. Chambord, a famous château of the

Renaissance period, situated in the dept. of Loir-et-Cher, France, 12 m. E. of Blois. The building of the castle was commenced by Francis I. in 1526, and was completed by his successors of the houses of Valois and Bourbon. It is a huge pile, capped by many turrets and gables, and stands in a walled park of 13,000 ac. It has been the residence of the French kings

Marshal Berthier, who had it conferred upon him by Napoleon in 1809. After the death of Berthier it passed into the hands of the Comte de Chambord. Molière gave his first perform-ance of the Bourgeois Gentilhomme in the castle in 1670. Consult Millot. Les châteaux historiques: Chambord, 1875; Arnauld, La Question de Chambord, 1887; and Miltoun, Castles and 1887; and Miltoun, Castles and Chdleaux of Old Touraine, 1907. Chambord, Henri Charles Dieu-

donné, Comte de (1820-83), posthum-ous son of the Duc de Berri, and grandson of Charles X. of France, was born in Paris. Charles X. abdicated in favour of his grandson in July 1830, but the machinations of the people to put Louis Philippe on the throne caused Charles and his grandson to flee to England for safety. C. subsequently went to Görz, where he came under the influence of the Duc de Damas, and became imbued with uncompromising ideas on pre-destination and the divine right of k.ngs. His movements and plans were marked with great indecision, and his readiness to comply with the plans of the vacillating nobles who espoused his cause dissipated his chances of attaining to the throne. It was thus in 1848 his claim was lost. and again in 1870 at the close of the Franco-German War. At the fall of Thiers in 1873 his cause was finally ruined. He died at Frohsdorf, Austria, without an heir, the nearest claimant being the Comte de Paris. .

Chambre Ardente (Fr., flaming chamber), a court organised in 1535 by Francis I. of France for the sup-pression of Protestant heresy. The atrocities committed there were notorious throughout Europe, and the chamber was so called because the favourite punishment of the institu-

tion was death by burning.

Chambre Introuvable (Fr. for ' the unique and unprecedented chamber'). the name popularly given to the Chamber of Deputies which was first convened in July 1815, after the second recall of Louis XVIII. It was bestowed by the king out of gratitude, although some say in irony; for this parliament roused indignation and parliament roused margination its alarm throughout France for its royalist policy. The term has since been sarcastically applied to any ultra-monarchical assembly.

Chamdo, or Chiamdo, a tn. in Tibet, situated on the Lan-tsang; it has several monasteries, and is much frequented by Lamaist pilgrims.

Chameleon, the name of a large and distinct order of lizards in the

ent.

family Chammleontide which habit Asia and Africa, but especially Madagascar. Many of their characteristics are very peculiar, e.g. the long, prehensile tail used in steadying the animal by being coiled round a branch; the long, sticky, club-shaped tongue which can project about the length of its body; the eyes covered lid capable of

and squinting; les of twos and head, flattened crest; and the

habit of changing colour which can be performed at will. They are all insectivorous, are rather quarrelsome and inactive, difficult to keep and when angry they and

d in winter inbernate after taking in large supplies of food and water. Nearly all are oviparous, and the female lays her thirty to forty eggs in a hole in the ground. The commonest species is Ch. vulgaris, which never exceeds one foot in length, and Ch. parsoni is the largest species, sometimes measuring two feet from head to tail.

Chamfer, a term in masonry sig-nifying to groove, bevel, or furrow

stone.

Chamfort, Nicolas (1741-94), noted French cynic and author, born at Clermont in Auvergne, France. His writings and brilliant conversation attracted a wide circle of admirers of every class. Louis XVI, and Marie Antoinette favoured his literary efforts, but he was keenly opposed to the Royalist party during the revolutionary agitation. He, however, defeated his own purpose by directing his cynicism against his own party. His irate associates conspired against him, and to escape he was obliged to commit suicide. His works, mainly apothegmatical and anecdot cal, were edited by Anguis and misso als published in five volumes. A smaller K. Lentzn-selection of his works, called The his Life an Cynic's Breviary, is translated by Chamois, Hutchison.

Chamidæ, a family of molluscs nearly related to the cockles, belongs the order Eulamellibranchiata. The distinguishing characteristics of the species are the short foot, lack of byssus, two adductors, the fixed and asymmetrical shell, alsence of a pallial sinus, and the pallial orifices are separated. The members of the family are confined to the warmer seas, and fossils are abundant from the Jurassic. Two of the chief general are Chama and Diceras.

Chamier, Frederick (1796-1870), a Chamier, Frederick (1796-1870), a Chamond, St., a French tn. in the naval historian and novelist, entered dept. of Loire. It stands on the R. the navy at the age of thirteen, and Gier, and is situated to the N.E. of

in-| served in the Walcheren expedition, and on the Mediterranean and West Indian stations. He was not employed after 1827, when he had attained to the rank of lieutenant, and six years later he was placed on the retired list, on which in 1856 he was promoted to be captain. He devoted his leisure to authorship. His most valuable work was a continuation of James's Naval History, but with his novels he appealed to a wider public. Though these stories of sea life are little read to-day, the names of the best of them, Ben Brace and The Arethusa, are still remembered.

Chamisso. Adalbert von (1781-1838), a celebrated German poet and naturalist. He was b. at the château of Boncourt, Champagne, but grew up in Prussia, where his family took refuge during the French Revolution. In 1798 he entered the Prussian army. but in 1806, when war broke out, his patriotism led him to return to his native country. In Paris he became the friend of Madame de Staël at Coppet, where he met Schlegel. At this time he began the study of botany. which he afterwards continued at Berlin, being appointed curator of the Botanic Gardens in 1819. He edited the Musenalmanach (1832-8), and became a member of the Berlin Academy in 1835. C.'s fame rests on his romantic ballads, which are turns fantastic and lurid. Geschichte. Schlemihls wundersame 1814, a wonderful prose tale, already known to folk-lore, of the man who sold his shadow to the devil, has been translated into almost every European tongue. C. made many verse table being the

collected works .eipzig, with a biography by Hitzig and his letters. Consult Fu Zeit, 1881: ŀα∙ ind

Chamois, (Rupicapra tragus) inhabiting mountains of Central and Southern Europe (especially the Alps) and of W. Asia. Noted for great speed and agility, and delicate power of scent. The flesh is highly prized as venison, the skin furnishes true chamoisleather (sheepskin often sold as such). Hunting it is a favourite but dangerous amusement in Switzerland and the Tyrol. In the Caucasus, Taurus, and Carpathians over 100 are often seen in a flock. The C. has short horns,

and is grey-brown in colour.

the manufacturing town of St. Etienne. | formerly occupied the depts. of Marne. Its chief industries are the manufacture of silks, laces, and ribbons. It also possesses iron work, while coal is found quite near. Pop. about 15,470.

Chamounix, or Chamounix, or Chamouni, a beautifully situated vil. on the Arve in the dept. of Haute-Savoie, France. The village is about 40 m. distant from Geneva. It is 40 m. distant from Geneva. It is situated in a narrow ravine to the N. of the Mt. Blanc range. Seven glaciers are in its near vicinity. G. is the best approach to Mt. Blanc, and is therefore thronged with tourists. The air at this spot is very bracing, and at all seasons valetudinarians here seek health and strength. De Saussure, who had the honour in 1786 of first ascending M. Blanc, made his ascent from this point, and a statue of him in the village memorises

Ardenne, and part of Scine-et-Marne, region, and its vineyards produce the famous champagne wine. The province was ruled at one time by the Franks, and later by native princes, the vassals of the French kings. In 1284 it passed to the French crown by the marriage of Philip IV. with Leanne de Navarra. Jeanne de Navarre.

Champagne (or c' lippe de (1602-74), painter, born in I studied under Fouquières at Antwerp, but in 1621 went to Paris, where he became queen's painter. In this capacity he painted decorations in the Luxembourg for Maria de' Medici. He was appointed rector of the Académie de Peinture et de Sculpture, and received frequent commissions from Cardinal Richelieu. In his leter vaces he heave and commissions from Cardinal Richelleu. The species of Champagne. The In his later years he became associated with the Port Royalists and the Jansenists. His best known pictures are: 'The Last Supper,' wine, while the French select a light, trues are: 'The Last Supper,' rquality is most Dead Christ,' and a portrait of dinal Richelleu in the Louvre, artiple portrait of Cardinal Richelleu in the National Gallery.

The species of Champagne. The species of Champa

Haute-Marne, Aube, and Ardennes. The produce of the vineyards on the banks of the Marne is the choicest in In colour C. W. are white, flavour. pale amber, pink, or red, and in character are still, creamy, and sparkling (or mousseaux, cremans, sparking (or mousseaux, cremans, and non-mousseaux), of which the last is the choicest. The white wines are sent to the English, Russian, German, and French markets; the red wines are mailly consumed in Belgium. The vine in the Champagne country is grown on chalk, and is most carefully cultivated. Champagne or the constant of the co most carefully cultivated. pagne, like other light wines (e.g. Moselles, Hoproduced by

fermentation acid gas does not entirely escape. The statue of him in the village memorises the event. The altitude of the village is 3425 ft., and the pop. (1901) 2729. See Whymper's Chamonix and the Range of Mont Blane, 1896.
Champac, or Michelia Champaca, is an Asiatic species of Magnoliacem which is cultivated in China for its beautiful and scented flowers, handsome appearance, medicinal bark, and useful timber. It is a sacred tree of the Buddhists and Brahmins.
C'
The process of bottling continues from April to June. The bottles are filled and the corks are secured by means of an iron adjustment called an argrefe. This appliance clasps the necks of the bottle at the rim, and can necks of the bottle at the rim and the total necks of the bottle at the rim and the total necks of the bottle at the rim and the total necks of the bottle at the rim and the total necks of the bottle at the rim and the total necks of the bottle at the rim and the total necks of the bottle at the rim and the total necks of the bottle at the rim and the total necks of the bottle at the rim and the total necks of the bottle at the rim and the total necks of the bottle at the rim and the total necks of the bottle at the rim grapes are carried from the vineyards necks of the bottle at the rim, and can Asine, and Yonne. The province was be adjusted and readjusted at will about 180 m. long by 150 m. broad. The bottles are then laid out horizon-The land is fertile in the western tally, and fermentation goes on briskly for about three weeks. During this process there is considerable loss owing to the bursting of bottles. Then follows a period of long and careful treatment. The bottles are fixed neck downwards on a rack, and as the position is slightly altered day by day the sediment gradually collects on The degorgeur then loosens and the cork is driven out

drawing the sediment, or tartar deposit, with it. Very little pure wine is lost in the process of dis-gorgement. The space thus left is filled up with an addition of liqueur, a mixture of white wine of the choicest cutées, a small quantity of sugar, and some fine cognac. The quantity of this admixture varies according to the species of champagne. The Russians prefer a powerful and sweet

in the National Gallery. tage of 1860 is still perfect in condi-Champagne Wines are produced in the old prov. of Champagne, which qualities are stored for about five years.

in the dept. of Jura. It stands on the writer. R. Ain, a trib. of the Rhône. Pop. of litera about 3680.

en Josephing ! Champa gn, a · city in the Cha U.S.A. It has the most notable or

Champ de Mars, a large open space in Paris over half a mile long, and about 550 yds, wide. Once it was the scene of military reviews, and since the Great Exhibition of 1867 has been the principal site for events of that nature, but the square, which was named after its famous Roman prototype, possesses an historical interest by reason of the many scenes it has witnessed. During the Revolu-tion it was the field of the fete held on the first anniversary of the fall of the Bastille, when a vast assembly acclaimed the federation and vowed eternal devotion to their country. In 1791 a regrettable massacre occurred, and in 1804 Napoleon distributed the imperial standards in this square.

Champel-sur-Arve, a suburb of Geneva and fashionable health resort. It has a fine hydropathic and several

large hotels.

Champerico, an important harbour of Central America, situated on the Pacific coast of Guatemala. C. is also the terminus of the San Felipe Rail-

way. Pop. 1500.

Champerty, or Champarty (Lat. campam partire. to divide the land), in criminal law is a species of maintenance or officious intermeddling in a law suit which in no way concerns one. The crime consists in making a bargain with a plaintiff or defendant that, in consideration of the cham-It has been champertous agreement w out.

Champagnole, a French tn. situated a great reputation as a realistic the dept. of Jura. It stands on the writer. His history of caricature, Ain, a trib. of the Rhône. Pop. of literature, of art (1825-40), and his Bibliographic Céramique (1882), written after he was appointed director of the Sevres potteries in 1872, are of great value. Among his novelsare: Chien-Caillou, 1831, which won the praise of Victor Hugo; Con-Champaran. a dist. of Bengal, fessions de Sylvius, 1849; Aventures India, situated in the Patna div. of de Mariette, 1856: Les Souffrances N.W. Bihar. Its area is 3531 sq. m., du Professeur Delieil, 1853 (translated and its pop. (1901) 1,799 463. into Enrlish under the title of Naughty Boys, or the Sufferings of Mr. Delteil); Bourgeois de Molinchart 1855, a satirical tale of provincial life among the middle classes; and Le Violon de Faience, 1862, generally considered his masterpiece. His biographies are excellent and include Honoré de Balzac, 1852. His Les Chats (1868) has been translated into English under the title The Cat, Past and Present, 1885.

Champigny, a tn. in France, dept-Seine, on the river Marne, and 6 m. E.S.E. of Paris. It has manufs. of piano keys and embroideries. There is an early Renaissance chapel, and C. was the scene of two battles during

the siege of Paris, 1870. Pop. 8600. Champion (Late Lat. campio, from campus, a field or open space), in the judicial combats of the middle ages the hired combatant who took the of women, children, persons, or any incapable of fighting their own battles. These 'Cs.' were of the lowest class, and were regarded as 'disreputable persons.' Later, in the age of chivalry, the name acquired a higher meaning and was applied to a knight who challenged applied to a knight who chanenged or defended on behalf of an injured lady or child. The office of crown C-is peculiar to England. The King's C. in full armour and mounted on borseback rode into Westminster Hall at the coronation banquet and bills, in consideration of the chainperfor carrying on the action at his challenged to single combat any who
own expense, the land or other should deny the sovereign's right to
subject matter of the action shall reign. The challenge was never
in the event of success be divided accepted, but the picturesque cerebetween them. C. is a misdemeanour monial was performed up to the
punishable by fine or is held by the

champertons agreement to care exercise influence in procuring evidence to support a claim for money upon conditions of receiving a portion of the sum recovered. See also Maintenance.

Champfleury, Jules Husson (1821-59), French author, born at Laon. He wrote under the name of Jules Fleury-Husson. He went to Paris at a very early age and joined the Bohemian circle of Baudelaire and Henri Murger. He wrote a number of Henri Murger. He wrote a number of Henri Murger. He wrote a number of pieces for the theatre in which, as well as in his later romances, he won 1798 he was appointed commander.

in-chief of 'the army of Rome,' de-cluding marine shells, round Lake fended Rome against the Neapolitans Champlain and elsewhere in N and the British fleet, and finally cap-tured Naples (1798), setting up the Parthenopean republic there. His intolerance of opposition was the cause of his recall from Italy in dis-grace. In the following year he was appointed commander-in-chief of the 'army of the Alps,' but was de-feated at Gendla (1799) by the Austrian and Russian troops, and retired to Nice. He died at Antibes in the following year.

Champlain, Samuel de (1567-1635), French explorer, founder of Quebec and first governor of French Canada. born at Brouage (Saintonge). His youth was spent in the army of Henry IV., and in an expedition to the W. Indies of which he wrote an account in Bref Discours des Choses plus remarquables que S. Champlain a recognues aux Indes Occidentales (first published in French, 1870). In 1603 he made his first voyage to Canada. On his third voyage (1608) he founded Quebec, established friendly relations with the Indians, and founded a prosperous fur trade. In 1612 he was made lieutenant of In 1629 Quebec fell into the hands of the English, and C. was taken to England as a prisoner. taken to England as a prisoner. At the treaty of St. Germain (1632), which restored Canada to France, C. returned to Quebec as governor. See Eutres de Champlain (6 vols.), 1870, and Voyages (3 vols.), 1878-82: also Life by Dionne, 1891; and in Makers of Canada Series, Champlain, by Dionne, 1805. Dionne, 1905.

Champlain, a lake in the N.E. of Lyceum of Grenoble, which he was the United States, lying Vermont and New York. narrow, ita northe stretching for nearly 6 m. into monuments, C. was led to believe that Canada. It is drained to the N. by the three systems of Egyptian writing the Richelieu into the St. Lawrence, and is connected by a canal with the hieroglyphics represented ideas or Hudson. It has an elevation of about letters. By degrees he discovered the 55 ft. above the sea, and an area of twenty-five letters. He was sent on 1824-6

Champlain Epoch or Period, t name given by Professor Dana to t period succeeding the Glacial in N. American geology, equivalent to the post-Glacial period of British geologists. The chief traces left by the C. E. are the deposits, in- (1778-1867), a French archæologist

America, the raised beaches around the great lakes, and old lake basins, now dried up, in their neighbour-hood and near the eastern coast. The small bitter lakes, the most imvas portant of which is the Great Salt of Lake of Utah, are the remains of a degreat system in the west.

Champneys, Basil, B.A. (b. 1842), English architect and author, born at Lichfield; educated at Charter-house and Trinity College, Cam-Among the buildings which bridge. he has designed are the Divinity and Literary Schools, Cambridge; Newn-ham College; Mansfield and Somerville Colleges, and Lady Margaret Hall, Oxford; Butler's Museum, Harrow; Ryland's Library, Man-chester. He is now cathedral architect at Manchester. His publications include: A Quiet Corner of England, 1875; Henry Merritt; Art Criticism and Romance, 1879; Coventry Patmore, Memoirs and Correspondence, 1901.

Champollion-Figeac, Aimé Louis (1812-94), a French author, born at Grenoble, and son of Jean Jacques C.-F. He was assistant librarian to his father at the Royal Library; also published several works on French history, art, and paleography, and edited a number of memoirs.

Champollion, Jean François, le Jeune (1790-1832), a French Egyptologist, born at Figeac, in the dept. of Lot. France. He was a great student of Coptic, and, indeed, of all Oriental languages. In 1816 he was appointed to the professorship of history at the

95 ft. above the sea, and an area of twenty-five letters. He was sent on about 750 sq. m. being nately 110 m. long by from 1 broad. To the E. lies the G range, to the W. the Adirondacks. The lake was discovered in 1609 by Samuel de Champlain, who gave it his name. It has been the scene of many skirmishes during the French and Indian War, and during the American Revolution. In 1814 the British fleet was defeated by the Ritish fleet was ent on 1821. Letter a M. Dacier, 1830. His works include: L'Emprie sous les Pharans, 1811-14; L sthumously:

1836 - 41:

He became professor of Greek at law the rector has special rights over Grenoble, and in 1825 was appointed conservator of MSS, in the Royal Library at Paris. He lost this position through Carnot on account of the February revolution, but afterwards was made keeper of MSS, at the Bibliothèque Nationale in Paris, also professor of paleography in the Ecole des Chartes. In 1849 he was appointed librarian of the palace at He wrote several Fontainebleau. works on historical and philological subjects, and was editor of some of his brother's works.

Chamusca, a tn. of Portugal, in the prov. of Estremadura. It is situated on the river Tagus, 12 m. from Wine is largely produced. Santarem.

Pop. 3500.

Chanar, an old fortress and tn. of British India, situated in the dist. of ilirapur, on the r. b. of the river Ganges. Warren Hastings lived here. There is a state prison in the neigh-

There is a state prison in the bourhood. Pop. 11,500.
Chañaral de las Animas, a tn. of Chile, S. America, situated on the coast, in the prov. of Atacama, 75 m. N.N.W. of Copiapó, and 48 m. from Caldera. It is, next to the latter, the There are most important port. There copper mines in the district. water supply is obtained by condensation from salt water. Pop. 4000.

see PROBABILITIES.

Chance- or Chaud-Medley, originally meant any casual affray accompanied with violence but without deliberation or preconceived malice. The expression, though seldom used, now means the killing of another in self-defence upon a sudden and un-premeditated encounter. C.-M. is to termed, C.-M.

elder brother of the more famous the screen is frequently called the Jean François C., born at Figeac | sanctuary. According to English the C., is entitled to the chief pew, and is liable for all necessary repairs. Parishioners are allowed beyond the screen for the celebration of holy communion and for marriage services.

Chancellor (Lat. concellorius). The primary meaning of cancellarius is one who is stationed at the latticework of a window or door-way, to introduce visitors, etc. In another sense, cancellarius was a kind of legal scribe, so called also from his position at the cancelli of the courts of law. The concellorius, under the later emperors and in the court at Constantinople, was a chief scribe or secretary who was ultimately in-vested with judicial powers and a general superintendence over the rest of the officers of the emperor. All the modern nations of Europe have or have had Cs., though the powers and duties seem to have varied in each. In England the C. was cricinally the king's chief secretary, to whom peti-tions were referred, by whom patents and grants from the crown were approved and completed, and by whom reports upon such matters were, if necessary, made to the king; hence in Saxon times he was sometimes styled referencerises. The name C. is said first to occur in English history in the time of Edward the Elder, A.D. 920. In early times, as the C. was usually an ecclesiastic head chaplain and father confessor to the king, he became keeper of the king's conscience, examiner of his patents, the officer by whom prerogative writs were prepared, and keeper of the Great Seal. The last ecclesiastic who exercised the office was John Williams, Archbishop of York, from 1621-25. premeditated encounter. C.-Al. is to defining the distinguished from manslaughter. The interference of the kinc, as the for the latter is a crime, but the former an excusable act. The general sought against the decisions of the distinction is that, if both parties are actually fighting, he who gives the mortal blow is quilty of manslaughter, but if one of them at first refuses to the maintenance of protection afforded field and refuses mild at lest to this addressor; the neitinger was fight and retreats until, at last, to to his adversary, the petitioner was avoid his own destruction, he kills unable to obtain redress. The Enchis antagonist, that is excusable lish C.'s jurisdiction sprang from this homicide, or, as it is inaccurately royal discretionary authority. (See med, C.-M. olso Chancery, Equity.) It may be Chancel (Late Lat. cancellus, a observed that although the English screen), the eastern part of a church, i.C. powers were so closely interwoven usually separated from the nave by with the development of equity he an open-work screen or rail. In some nevertheless possessed at one time a an open-work screen or rail. In some inevertheless possessed at one time a mediæval churches the screen is very political pre-eminence not only far high, so that the congregation is completely shut off. The choir stalls and the rector's pew are in the C., and the for on the decline of the office of communion table on a raised platform at the far end. The term C. is as the chief justiciar, the C. succeeded him form at the far end. The term C. is as the chief minister. The Earl of often used as synonymous with choir; Suffolk in the reign of Richard IL., In small churches the space behind for example, exercised authority not

only over revenue matters, but also , which dispensed both equity and over foreign policy. Like the justiciar, common law and the course of protended to become a purely legal one.
The style of the C. in Eugland is Lord
High C. of Great Britain. He takes
The style all dukes not of the royal
With England, it was provided that blood and, next to the Archbishop of Canterbury, is the chief judge in England, and has a seat in the cabinet. He is appointed by delivery of the Great Seal, sits on the Woolsack, presides at debates in the House sack, presides at debates in the House of Lords, and goes out with the government. A Roman Catholic may not be Lord High C. of England. The salary of the Lord C. is £10,000 a year, and an ex-Lord C. receives a pension of £4000 a year, but on going out of office he usually conducts a great deal of judicial work, presiding in the House of Lords, sitting as the ultimate Court of Appeal and begins. ultimate Court of Appeal, and hearing appeals to the Privy Council. In the House of Lords he presides as speaker. He is the guardian of infants and their property, and has jurisdiction over idious and lunatics by special delegation from the crown. He is qualified to sit in the Court of Appeal, and presides when he sits there, and is the titular head of the Chancery Division. He appoints the judges of the Court of Appeal and the High Court and the county courts, and may remove county court judges if necessary. He also appoints county justices of the peace on the recommendation of the lord-lieutenant,

Speaker of the Commons, and reads the king's speech in the absence of the latter. He has the presentation of various canonries and livings, dispenses a wide patronage in addition to that concurre

judges respect to writs of habeas corpus (q.v.), and is, ex officio, vestor of all hospitals and colleges founded by the crown. There is also a Lord C. of Ireland, whose authority within his own

diction is in most respects the as that of the Lord High C. of

England the C, for the most part being well received there, and con-only carved out for himself a juris-diction in equity, in Scotland he of trade to English ships. On a reached the head of the administra-second voyage he was lost in shiption in justice, and sat in a court wreck off the coast of Aberdeen.

tures were bound to follow. The office of C. of Scotland expired in 1707 when, by the Treaty of Union with England, it was provided that there should in future be but one Great Seal for the United Kingdom. The C. of a bishop is vicar-general to the bishop, and presides over the bishop's consistory court. He must be a barrister of at least seven years' standing. The C. of the Duchy of Lancaster, an officer who presides in the duchy chamber of Lancaster, adjudicating on equity matters connected with the crown lands of the duchy. He is one of the titular heads of the Board of Agriculture. The C. of a cathedral is one of the four chief dignitaries of cathedrals of ancient foundation. The C. of the Exchequer is the principal finance minister of the crown. The office is sometimes held by the Prime Minister when he is a member of the House of standing. The C. of the Duchy of when he is a member of the House of His legal functions are Commons. now merely formal, such as presiding at the ceremony of nominating Constitutionally he is the Under-Treasurer, the office of Lord High Treasurer being now executed by the Lords Commissioners of the Treasury. His voice, however, may be all-powerful in connection with Exchequer, the degree of his political eminence varying with the qualities of the individual who holds (See the Exchequer seat. under EXCHEQUER, CHANCELLOR OF.) The Cs. of the universities of Oxford and Cambridge are the titular heads of the universities, and are elected by the respective corporate bodies of which they are the heads. Their duties are mainly discharged by a vice-C. The C. of the Order of the Garter and other orders of knighthood, seals and authenticates the formal instruments of the chapter and keeps the register of the order. Chancellor, Richard (d. 1556), an English navigator; appointed in 1553 as captain and pilot-general of the the expedition of to search for The ships ia. Britain. His salary is £8000 a year. were separated in a storm off the goden Islands, and C. reached dohus, the meeting-place that been agreed upon, and after ting seven days in vain for the of the company, he went on le into the White Sea from whence travelled to the court at Moscow,

Chancellorsville, a vil. of Virginia, 1348 the so-called Court of C. was or United States, situated in Spottsyl- was not merely the royal council, vania co., between Richmond and Washington. It was the scene of one of the greatest battles of the Civil War in 1863, when General 'Stone-wall' Jackson received his death wall' Jackson received his death wound and General Hooker was

defeated. Chancery (Lat. cancellarius. chancellor). Before the fusion of common law (q.v.) and equity (q.v.) by the Judicature Act, 1873, the Court of C. was the name given to the court which had the sole administration of equity. Since 1873, when the Supreme Court of Judicature was established to exercise the consolidated juris-dictions of the old courts of C., King's Bench (q.v.), Common Pleas (q.v.), Exchequer (q.v.), and Admiralty (q.v.), Probate, Divorce, and Matrimonial Causes courts, the administration of equity became competent to all courts of law, and the C. division now means that side of the High Court of Justice to which is assigned the trials of certain special causes. As a fact practically all matters falling within its old jurisdiction are still heard in the C. courts. The principal matters assigned to the C. division relate to the estates of deceased persons, partnerships, trusts, partition or sale of real estates, specific performance of contracts for the sale of land or other property, the redemption or foreclosure of mortgages, care of infants' estates cancellation or rectiof certain special causes. As a fact instruments, and the wills. It consists at of six pusine judges,

Chancellor as titular head. History.—The whole course of the gradual evolution of the Court of C. is intimately connected with the dereligious victoria to the deviction of the victoria of the vic grievances for which there existed no available remedy at common law. The king as the fountain head of

sitting in a place called the Chancery to hear petitions of 'grace and favour' in cases which the common law could not reach, the Chancellor gradually usurped the judicial functions of the council and sat as a judge alone. The power of the Court of C. after it ceased to follow the king in 1348 was developed mainly through the Chancellor's delegated authority to invent new writs to meet cases for which the common law judges were unable to give redress either because of some defect of principle in the law itself, or because such remedies as it did provide could not avail against the oppression or local influence of one of the parties. From and after the end of the 14th century the judicial power of the Court of C. increased enormously in spite of remonstrances from the common law judges and the Commons. At the time of Coke it exercised an ordinary or common law (secundum legem et consuetu-denem) jurisdiction and an extraordinary (secundum æquum et bonum) jurisdiction, in the former giving auxiliary remedies such as discovery of documents in cases otherwise decided on common law principles, in the latter proceeding entirely on grounds of equity. The characteristic features of its proceedings were the summons by subpæna to appear and foreclosure of mortgages, care of answer without any original writ to infants' estates, cancellation or rectithe sheriff, by which means it could fication of deeds or other written reach powerful personages, who instruments and the nmon law courts, and

by the instrumentality noved causes from the common law judges or reversed their decisions, and committed a plaintiff for contempt who persisted in going on in the common law courts against conscience, and in defiance of the order of the C. Court. The constant struggles between the common law judges and the C. Court culminated in the historic contest between Coke and Ellesmere in 1616, when the king pronounced in favour of the Chan-cellor. From that time the Court of justice, enjoyed the prerogative of C. became the dominating power in dispensing justice personally in his the justiciary, and the rules of equity royal council (curia regis). Later were made to prevail over those of royal council (curia regis). Later were made to prevail over those of the judicial side of the royal council common law. Down to the middle of became specialised in the concilium the 19th century the business of the ordinarium acting as a Court of Court of C. was exercised by the Appeal and Equity, and the Chan-Lord Chancellor, three Vice-Chancellor as the keeper of the king's concellors, and the Master of the Rolls, cellor as the keeper of the king's con- cellors, and the Master of the Kolls, science, and the chief legal officer of each occupying a separate court the council, presided over it in the There were also various officials who king's absence. The old Court of C. exercised certain parts of the equitable is generally believed to have been jurisdiction of the court, who derived established in 1348 by an ordinance their authority from special delega-which vested in the Chancellor tion of one of the C. judges. These plenary authority in 'matters of were principally the Masters in Ordi-grace and favour.' But whether after mary and the Accountant-General. Proceedings in the old Court of C. an English classical archeologist, born were conducted by Bill and Answer. The Bill set out the facts as alleged by the plaintiff, prayed for relief, and concluded with a request for a subpæna to compel the appearance of the defendant for examination. The defendant's answer usually contained a demurrer (q.v.) to the Bill, various pleas in reply, and a denial of the truth of the allegations, with his own version of the case. Scientific precision indeed was completely subordinated to conscience, but the true spirit of equity was in a measure violated by the gradual tendency of the procedure to as complete a technicality as that of the common law. The partial fusion of administration of equitable remedies effected by the Judicature Acts has to a great extent modified the excessive technicality of the C. Court, or its modern representative the C. Division. It may be noted that in most of our colonies there are Courts of C. based more or less on the model of the English courts. There were also C. courts in some of the states which composed the N. American Union.

Chanda, a tn. of British India, in the Nagpur division of the Central provinces. Until 1751, it was the

climate unhealthy. is extremely There are manufactures of silk and cotton goods and bamboo articles. A yearly fair is held, which lasts three weeks. Pop. 18,000.

Chandausi, a tn. of British India. situated in the Moradabad dist. of the N.W. Provinces, 30 m. S. of Moradabad. It ext sugar. Pop. 28,000. It exports cotton and

Chandelier, a frame of metal or crystal suspended from roof or ceiling for the purpose of holding lights. They were originally made of wood, but were superseded by metal, as being more suitable.

Chanderi, a tn. of Central India, in the state of Gwalior. It is now under British government, but was formerly an important native town, and has

a strong hill fort. Pop. 5200.

Chandernagore, or properly Chandarnagar ('city of sandalwood'), a French settlement in the prov. of Bengal, India, 20 m. N. of Fort William, Calcutta, on the r. b. of the river Hugli. It is the seat of a French sub-governor, but is not of much commercial importance, owing to the Maurya empire, and has considered the commercial importance, owing to the India. He was son of a king of river not being navigable, though in India. earlier times it seemed like. Calcutt by the

at Elson, Hants., and died at Tilehurst, near Reading, Berks. He was educated at Winchester, and at Queen's and Magdalen, Oxford. In 1763 he published a detailed description of the Oxford marbles in his Marmora Oxoniensia, which was printed at the expense of the university. In the following year the Society of Dilettanti sent him out with Revett and Pars to study the antiquities of Greece and Asia Minor. On his return C. published his discoveries in Ionian Antiquities, 1769; Inscriptiones Antiquae, 1774; Travels in Asia Minor, 1775; and Travels in Greece. 1776. He was given the title D.D. in 1773. See an 'Account of the Author,' prefixed to Churton's edition of the Travels, 1825

Chandler, Samuel (1693-1766), an English nonconformist divine, born at Hungerford, Berkshire, where his He was edufather was minister. cated at Gloucester, where he met his life-long friend, Bishop Butler. He became follow of the Royal and Antiquarian Societies, and was made D.D. of Edinburgh and Glasgow. From 1716-26 he was minister at Peckham, from then preaching at the Old Jewry until his death. writings were numerous, and he took a prominent part in the deist con-troversies of the time.

Chandor, a tn. of British India, in the Presidency of Bombay, 130 m. N.E. of Bombay city. It is strongly fortified, the fort being on the summit of a high hill, and it thus commands " the route from

It was taken zovernment in

1804. Pop. 5000.

Chandos, a great English family, descended from a follower of William the Conqueror, of Norman times:
Str John Chandos (d. 1428) was

the last representative in direct male

line.

Sir John Brydges, a descendant in the female line, was lieutenant of the Tower under Queen Mary, and was created Baron C. in 1554. James Brydges, the eighth Lord

C., was created duke in 1719. The

Edgware, is now destroyed.

Chandpur, a tn. of British India, situated in the district of Bijnaur, 70 m. N.E. of Delhi. Pop. 12,000.

Chandragupta, or Sandrocottus (reigned 316-292 B.c.), founder of the Maurya empire, and first Emperor of a youth he was forced

his kinsfolk, and during gathered round him a

later b Chandler, Dr. Richard (1738-1810), great company of warriors, then

attacked the " quered the Pu

Magadha, sle lished himself on the throne. and in due time his kingdom extended from the Hindu-Kush to the Bay of Bengal.

Chandrakona, a tu. of British India, situated in the dist. of Midna-poor, Bengal, 59 m. W. of Calcutta. Pop. 21,000.

Chang, a name given to the Tibetan plateau which breaks up about the meridian of 92° E. Scientific investigations have not been systematically carried out in this region as yet, but it is known that the Himalayan tributaries of the Brahmaputra derive their sources from the Tibetan nlateau.

Chang Bhakar, or Chang Bhuker, a native state of Chuta-Nagoor, India, with an area of 900 sq. m. capital is Janakpoor, which is merely a small village, and the state is principally jungle. Pop. 9000.

Chang-chia-wan, a small town in Chih-li, China. It is situate? a cont 61 m. from Tung-chou. Here was fought in September Isin in the French and British, wi Chinese treacherously regarges t several English officers und of truce.

Chang-Chih-tung (1837-1909), a Chinese scholar and statesman, born in the province of Chih-li. From 1889-1907 he was viceroy of Hukuang. In character he was a great dreamer and enthusiast, and very unpractical. He had great literary powers, and his knowledge of the Chinese classics was unrivalled. He is said to have been one of the most able men in modern times, and his powerful personality and true patriotism won for him a high position in the regard and trust of his fellow-countrymen,

Chang-chou-fu, two cities in China. The first is situated in the province of Fo-Kien, about 28 m. W. of Amoy. It has manufactories of bricks and sugar, and a great silk trade. The second belongs to the province of

Kiang-su.

Chang-pai-Shan, Lao-ling, or Shan-Alin Mountain, in the prov. of the province of t their source in the mountains, the Sungari on the N. side, and the Yalu the on the S.

Chang-sha-fu, the cap. tn. of the prov. of Hu-nan, China. It is well situated on the bank of the H. Hsiang. The town faces on to the river, the bank of which is lined with junks to the extent of nearly 3 m. It carries on a considerable amount of trade, and possesses a depot for timber

1.-inc and con-) poles. It has also a celebrated college known as Yo-lo.

Chang-te-fu, two cities in China. The first is in the province of Ho-nan; and the second in the province of Hu-nan, situated on the R. Yuan, which is the chief means of communication from the neighbouring province of Kwei-chou.

Changarnier. Nicolas Anne Théodule (1793-1877), a French general of note, born at Autun. He was for years governor-general Algeria, and served in the Spanish War, 1823. He later on obtained a military post in Paris, where he sub-dued the communist struggles of He was arrested in 1851 for opposing Napoleon III., and exiled from France, to which he only re-turned eight years later, after the settlement of 1859. He joined with Bazaine in the war of 1870, and when the town of Metz was captured he was taken prisoner and sent to Germany.

Change (derived from Lat. cambrare, to harter), a meeting-place for The name has been the in the land abbreviated form of ever and is written thushis is incorrect,

(harmelue, According to fairy lore, a Chief fairy infant substituted for a human one immediately after its birth. In olden days a child that was especially pecvish was regarded as a C. Great precautions were taken in the guarding of the mortal infant, and often some charm was left in the cradle. It was supposed the exchange could only take place before the christening, and that afterwards the mortal infant was safe.

Channel, The English, see Excuse

CHANNEL Channel Islands, The, a cluster of small rocky islands lying off the N.W. coast of France, and between 90 and 100 m. S. of England. The group consists of the islands of Jersey and Guernsey, the largest of them all, others being Alderney, Sark, and Herm, and others smaller still, such as the Casquets, Jethou, Brechou, Dirouilles, Paternosters, Burhou, Minquiers, and Chausseys, which are merely minute rocky islets. The total area of the islands is about 75 sq. m. The waters around are so full of recis as to render navigation exceedingly dangerous, especially in the vicinity of Jersey and Alderney: many boats have been wrecked on the Casquets. The climate is mild and equable, the annual mean temperature being 51.7° F., and the rainfall varies from 34 to 38 in. The soil is rich and fertile, and very well cultivated, and the inhabitants send a great supply of early potatoes, grapes, tomatoes, vege-tables, and fruits of all kinds to the

English markets. Shrubs such as the camellia, hydrangea, and myrtle grow well in the open air, and the vegetation is luxuriant in most parts. One of the most important industries of the islands is that of the fisheries. which include cod, lobsters, and oysters. The islands possess their own peculiar breed of cattle: they are usually rather small and well shaped. and well known for their splendid milking capacity: the quality of the breed is carefully watched. The natives are of Norman descent, are most industrious and enterprising, and on the whole enjoy fair properity. The holdings are as a rule small, varying from 5 to 20 acres, about two-fifths of the enlitivated land being farmed by the owners themselves. The language spoken by the people of the islands is a Norman-French state.

French patois, while modern French is the language spoken in such places as the law-courts, the churches, and assemblies of all kinds; but in all the schools English is taught. The population in 1821 was 49,430, and by 1901 it had increased to 95.840. The islands practically have independent rule: the principal executive officer in Jersey, also in Guernsey, is the lieu-The popular astenant-governor. semblies include life members, or missio itrats, the clergy, the mayors of different towns, and members, the last being chosen by the people. Most of Agricu the inhabitants embrace the Protess-Instinct and Instinct the Instinc the inhabitants embrace the Protes-Instinct, The Greek Orators as tent religion, and the islands belong Historical Authorities, The Second in the exclesiastical sense to the Ballot, and other works. diocese of Winchester. Rates and taxes are very light. There are several megalithic monuments, crom-Rates and There are lechs, tumuli, etc., which give evi-Rhode Is. He graduated at Harvard dence of the existence of a prehist in 1798, and in 1803 became minister toric race of inhabitants. The islands of the Federal Street Congregational

remain of Britain's ancient Avanage Possessions.
Channel Tunnel. M. Mathieu, a Frenchman by birth, was the first to propose submarine communication with England. He laid the suggestion before Napoleon L that a roadway should be built under the England Channel, and that the means of locomotion should be earried on by horses.
After railways had come into yogue, it William Low, in the year 1867, thought that two single-line tunnels, with could be engineered. At the Paris Exhibition of that same year a model of a tunnel was shown by Thome de Gamond, and in 1872 the English Channel Tunnel Co. was formed. The

scheme was set on foot, and operations begun at Sangatte, near Calais, and Shakespeare's Cliff, near Dover. headways having been bored for 2000 yards under the sea at either end. But the plan was not allowed to proceed, for the English military authorities refused to sanction it, saying it would greatly increase the necessity for defensive precautions, and parliament also strongly opposed the scheme. During the experimental proceedings coal was discovered near Dover. In May 1904 the Paris Chamber of Commerce passed a resolution strongly advocating the scheme, and the Channel Tunnel Co. in recent years showed intention of once more approaching parliament on the subject.

Channing, Sir Francis Alston, first Baronet (b. 1841), an English politician. He was educated at Exeter College, Oxford, and was tutor and lecturer in philosophy at University College in the same town. He is the conege in the same town. He is the only son of the late Rev. William Henry C., and married in 1869 Elizabeth, daughter of Henry Bryant of Boston, U.S.A. He has taken an active part in promoting agricultural, educational, and labour reforms. He was a member of the Royal Com-

Channing, William Ellery (1780-1842), an eminent American Unitarian preacher and writer, born at Newport, Rhode Is. He graduated at Harvard first became British possessions on Church, Boston, where he acquired a the accession of William the Congreat reputation for eloquent preachiqueror, and they are all that now inc. His early preaching was Calremain of Britain's ancient Norman possessions. of the Rev Jared Sparks in which he defined his religious views as approaching the Unitarian position. C. became involved in a controversy in which he was called the 'apostle of Unitarianism, although he himself objected to Channel, and that the means of locomotion should be earried on by horses.

After railways had come into vogue, it and shrank from ecclesiastical was suggested by some English and shrank from ecclesiastical was suggested by some English and shrank from ecclesiastical was suggested by some English and shrank from ecclesiastical was suggested by some English and shrank from ecclesiastical from the engineers that a tube should be laid along the bed of the sea, e.g., it is the engineer of what with the west 1867 thought social reform and preached and wrote

English authors, notably Wordsworth and Coleridge. His works include: Remarks on National Lilerature, 1823; On the Characler and Writings of John Millon, 1826; On the Characler and Writings of John Millon, 1826; On the Characler and Writings of Fénelon the Characler and Writings of Fénelon 1829; an essay on Negro Slavery, 1835; the same published in five vols. in 1841, and in 1875 were reprinted in one vol. His sermons were collected and published in 1872. Consult the Life published by his nephew, William Henry C. (3 vols., London, 1848), and that of J. W. Chadwick (Boston, 1903). Chansons de Gestes (Lat. gesta), the name given to long narrative poems written by the trouvères of N. In an asylum and also a school-france from the 11th to the 15th century, in number about 110 according to Gautier. Probably as early as the 9th century epic poems began to be known, as chanted by the minstrels, or jongleurs as they were called. The carliest known C. in existence, the Chanson de Roland. is by far the most famous and noblest of them all, which appears to have been written between the years 1066-95. Most of the C. are divided into three cycles, that of since the 17th century, sand is conditional contents of the man Catholic missionaries, divided into three cycles, that of since the 17th century, sand is conditional contents on the chanson de Roland. noblest of them all, which appears to have been written between the rears 1066-95. Most of the C are divided into three cycles, that of Charlemagne, of Doon de Mayence, and Garin de Montgiane; there are also lesser cycles, such as Garin de Lorraine, and all are connected one with the other. Probable the worth with the other. Probably the most important cycle was that one which gave an account of the doings of Charlemagne, and was known as the Charlemanne, and was known as the Geste du Roi. It described the life of the mother of Charlemanne, as well as that of the emperor himself. Another interesting cycle is that of La Geste de Guillaume, which tells of the brave men of the south who render faithful service to the throne. There are a great number of poems belonging to great number of poems belonging to this cycle, and are some of the earliest this cycle, and are some of the earliest brison, Loire. He prought out many now extant. The subjects of these works, the majority of which deal chansons de gestes are nearly all with the 17th century. His most imtaken from French history, and written in verses of ten or twelves Retz d l'Affaire du Chapeau, in two syllables. Their general character is volumes, published in 1878; then in inclined to hardness and coarseness, 1879, Le Cardinal de Retz d ess want of art, and very little grace

there is great energy; they are fr Gallic strength and force. literary value and historical interest Proces d son Execution. are very considerable; the customs and books the French Academy crowned ideas of the times in which they were He also brought out others over which written are faithfully reproduced, and there was much controversy. their popularity spread into England, Italy, Spain, and even Iceland. Very many of the surviving poems

responses are sung in the English and Chanterelle, Chantarelle, and Chan-Roman churches. There are two sorts (tarella, popular renderings of the of chant, single and double—single) name Cantharellus cibarius, an edible

of Saint. It has been a erroughout of the Roman Catholic missionaries, since the 17th century, and is con-sidered to possess a stronger Christian element than any other place in Siam. There is considerable export trade in resewood, drewoods, timber, ivory, hides, gum, and horns, and there are mines of precious stones in the vicinity.

Chantada, a tn. of North-western Spain in the prov. of Luco. It is situated on the L b. of the Rio de Chantada, and on the main road from Orerse to Lugo. There is considerable trade in hemp, flax, grain, and dairy-produce. Pop. 15,500.

Chantelauze, François Régis (1821-88), a French historian, born at Montbrison, Loire. He brought out many

(1876) " uarl: ron

٠., , All these

their popularity spread into England, Italy, Spain, and even Iceland. Ghantenay, a tn. of France in the Very many of the surviving poems were never published. There are large brandy divilleries, Chant, the term applied to the short tunes to which the psaims and responses are sung in the English and Chanterelle, Chantarelle, Chantarelle, and Chanterelle, Chantarelle, Chan

mushroom which resembles Agaricus, (cantare, to sing), a term applied to a In colour it is a bright orange, the cap is irregularly shaped, the gills are thick and wrinkled, and the whole plant has a pleasant fruity smell.

Chantilly, a tn. in the dept. of Oise France, about 25 m. N.E. of Paris. It has two chateaux. One, built 1527-31, was presented with its art collection to the Institut de France by the Duc The other is a perfect specimen of French Renaissance architecture. The town has a famous racecourse, where three meetings are held annually. Pop. (1901) 4463

Chantrey, Sir Francis Legatt (1781-1842), an English sculptor, born at Norton, Derbyshire. He began life in humble circumstances, his being a carpenter. He was left an orphan at the age of twelve, but was befriended by a wealthy lady in the neighbourhood, and in 1797 was apprenticed to a wood-carver, framemaker, and gilder in Sheffield. Here he began modelling in clay and drawing pencil sketches, which attracted the attention of John Raphael Smith, the mezzotint engraver, who gave him some lessons in portrait painting. In 1803 he came to London and studied at the Royal Academy, where his first work, a 'Portrait of D. Wale. Esq., was exhibited in 1801. His work was well received, so that in 1809 he received a commission to execute colosal busts of British busts of Briand execute colossal busts of British admirals—Howe, Vincent, Duncan, and Nelson—for the Greenwich Hospital. In 1808 he received an order for a statue of George III. to be placed in the Guildhall. His reputation for portraiture was estab-lished, and he executed busts or statues of most of the prominent men of his time. His busts include those of Sir Walter Scott (two. 1820 and 1828), James Watt (Westminster Abbey), and Wordsworth; his chief statues are Sir Joseph Banks (1827), Washington (in Boston), the Duke of Wellington (in front of the Royal Exchange, London), George IV., Can-ning, and Roscoe (Glasgow). His statue-group of the 'Sleeping Children' in Lichfield Cathedral is well known. C. bequeathed his fortune to the Royal Academy, to be partly expended on the purchase of works of art executed in Great Britain. 1903 complaints with regard to the Chantrey Bequest were raised on the ground that the committee was too exclusive in its choice of artists. 1904 the House of Lords appointed a committee to inquire into the matter. Consult John Holland, Memorials of Chantrey, 1851; G. Jones, Sir Francis Chantrey; and M'Coll, Administration of the Chantrey Bequest, 1904.
Chantry (O. Fr. chanterie, Lat.

chanel or altar where masses may be sung for the repose of a soul. chapels are often built off the aisle or nave of a church, and have the tomb of the founder placed in the centre. The word C. is also applied to the endowment for the upkeep of such a chapel.

Chanute, a city of Kansas, United States, in the Neosho co. It is in the Kansas Oklahoma oil and gas field, is the centre of a splendid farming region, and much dairy produce is obtained. C. was incorporated as a city in 1873. In 1899 natural gas and oil were discovered. Pop. 10,000.

Chanzy, Antoine Eugène Alfred (1823-83), a French general, born at Nouart, Ardennes. He was present at Magenta and Solfarino in 1859. He had about thirty years' service in Africa, on his return from which he commanded the second army of the Loire in the Franco-Prussian War in 1870. He was ambassador to Russia, 1879-81, and was nominated as president of the republic in 1879.

Chao-ching-fu, a city of China, in wang-tung. It is situated on the Kwang-tung.

West River.

Chao-chou-fu, or Chao-tchoo-fou, a city of China, in the prov. of Quang-Tong, situated on the river Han-Kiang, near where it flows into the China Sea.

Chaones, a people who lived in Epirus in the N. of Greece; thus Epirus is occasionally called Chaonia. Chaos, a term given by the Greeks

to the space and void which existed Literally means 'a yawning,' C. is said to be the mother. said to be the mother of Erebus and Nox (Darkness and Night).

Chapala, a lake in Mexico, with an area of 1300 sq. m., situated between Guadalajara and Michoacan. There are numerous islands, and the Rio Grande flows through it.

Chaparral, a tn. in Colombia, 115 m. from Bogota. It is rich in copper, iron, coal, and petroleum. It stands at an altitude of 2740 ft. Near by

at an attitude of 2740 ft. Near by are the painted rocks of Aipe and a peculiar grotto. Pop. 9000.

Chapbooks, or Broadsides, a term believed to have come into use in the reign of George IV., and applied to small pamphlets which at that time were the chief form of literature that the poor regule enjoyed not that the poor people enjoyed, not only in England but on the continent. only in England but on the Condition.

In Germany they were called Volksbucher, and in France Bibliothèque
Grisc. The beginning of the 17th
century is said to be about the time
of their advent into England. Some of these books were devoted to the interpretation of dreams, palmistry, astrology, etc., while others were such

tales as Jack the Giant Killer, | French poets, and every one thought Patient Grizel, Reynard the Fox, etc. In Scotland a number of more or less religious books were in vogue, especially the 'prophecies' of Peden. Then humorous books were always favourites, among them being The Merry Exploits of George Buchanan. Thackeray describes the Irish C. in his Irish Sketch Book, chaps. xv., xvi. Chapel, an association of com-

positors in a printing house, banded together into a sort of club. The president is called the 'father,' and is elected by the other compositors.

Chapel (O. Fr. chapele, from Lat. capella, a sanctuary), a building that is used for worship. Cs. were attached to cathedrals, churches, and abbeys as early as the 10th century, and were dedicated to some saint. An altar and relics of the saint were placed in the C., so that private devotions or special services might be held there. The central C. was often called the lady C. because it was dedicated to the Virgin Mary. Cs. might also be erected to hold the tombs of private individuals, as Henry VII 's C., added in 1502-20 to the E. end of Westminster Abbey. Cs. were also built by private families on their own estate, and by colleges on their own estate, and by colleges and schools frequently have Cs., in imitation of those at Oxford and Cambridge. The term C is also applied to places of worship built by Nonconformists, as distinct from those consecrated according to the laws of the Church of England. Chapel Royal, of England, the date

of whose foundation is not certain. It is known, however, that it was in existence at the time of Edward IV. It is composed of a dean, sub-dean, and fifty-eight clergymen, ten of whom are called 'priests in ordinary.' Its purpose was to attend on the sovereign, wherever he or she might be. In former years it existed in the chapel at Whitehall, but now it never holds a service anywhere but in the

chapel at St. James's Palace, London.

The C. R. of Scotland was founded by Alexander I. at Stirling Castle, but Mary had it removed to Holyrood. The chapel now consists of the dean, appointed by the sovereign, and six chaplains in ordinary who attend on the king when he is at Balmoral Castle. Any money that belongs to the chapel is given for salaries for chairs of divinity in connection with a university. The name used to be given to Holyrood Abbey

that his Puselle, which was one of the pseudo-epics of that time, would equal the *Iliad* or Æncid. The popularity of this work, however, did not endure, and after the praise be-stowed on the issue of the first twelve cantos in 1656 had subsided, his fame gradually dwindled, and he was laughed at by the younger poets such as Boileau. Under the patronage of Richelieu, however, he was prominent in founding the Academy, and it is to him that the rules of the 'three unities' were formally established in French drama. The last twelve cantos of Pucelle were not published with 1829. His next involved until 1882. His most important work is Sentiments de l'Académie sur le Cid, which he brought out in 1637. He is also said to have translated Guzman d'Alfarache in 1631.

Chapel-en-le-Frith, a tn. and parish

in High Peak division of Derbyshire, England, 4½ m. N. of Buxton. Pop. (1911) 5140; par. 16,547.
Chapelhall, a vil. in Lanarkshire, Scotland, 2½ m. S.E. of Airdrie. There are collieries and ironworks in the pseighbourhood.

chapelle St. Denis, anct. com. of Seine, France. It was united to Paris by an imperial decree of 1860, and now forms part of the 18th arron.

Chapeltown, an eccles, parish in the West Riding of Yorkshire, England, 6 m. N. of Sheffield. There are collieries and iron foundries, and bricks, tiles, etc., are manufactured. Pop. (1911) 2169.

Chaperon has a variety of meanings: (1) It is the name often given to the plumes seen on horses' heads in funeral or other processions. (2) Also applied to the cap which is worn by members of the English Order of the Garter. (3) It is the name given to the academic hood worn by all people who have taken a degree of any kind, such as Doctor of Music, Bachelor of Arts, etc. (4) Most commonly known as the term applied to a married lady who is acting as guardian' to an unmarried woman when appearing in public. This custom arose in the reign of Queen Anne. Prior to this no unmarried girl or woman could appear in public except under the guardianship of a near relation.

Chaplain, a term employed for a clergyman serving in some official capacity. Thus, in civil life, there are Cs. of the Chapel Royal, of prisons and workhouses, and, in an almost obsolete sense, of the households of noblemen. But the word is most commonly used in connection with Church, which is now in ruins.

Chapelain, Jean (1595-1674), a French literary critic who first came into notice through his preface to the army and navy. In the British Adone of Marino in the year 1623.

He was considered quite the chief of i.e. clergymen specially commissioned

for military service, and having the status of a non-combatant officer. The service is under the military department of the War Office, and is governed by a chaplain-general, with the rank of a major-general, who has jurisdiction over the Anglican Cs., who form the majority. Roman Catholic and Presbyterian Cs., who are commissioned for regiments where most of the men are of one of these faiths, are under the authority of the secretary of the War Office. Cs. are of four ranks, corresponding to colonels. lieutenant-colonels, majors, and captains. Their duties are to accompany the troops on active service, and in times of peace to hold divine service, officiate at funerals, etc., visit the men, and generally act as parish priests to the military stations to which they are allotted. There is a special clerical service for India. Every large ship has an Anglican C., who must not be over thirty-five years of age on entering the service and who on entering the service, and who retires at sixty. The pay varies from \$129 to £401, and those Cs. who also act as naval instructors receive special allowances. The head of the service, the C. of the fleet, has an income of £1000, the same as that of the chaplain-general. Naval Cs. are members of the gun-room or wardroom mess, and their duties include the holding of services on board, visitation of the sick, and assistance in the maintenance of moral disci-

pline among the men. Chaplain, Jules-Clément (b. 1839), a sculptor of medals and busts, deserves honour because he restored. to its earlier dignity the fallen art of Here he settled at once to a literary engraving on medals. Thus he executed a series for various societies and functions, including one for the Universal Exhibition of 1867, another in commemoration of the resistance of Paris, a third for the Salons, and a fourth to be given as a recognition for acts of heroism. Among his medal-lion-portraits are those of Schnetz, Meissonier, Renan, and Gambetta. Chapling Chapter (2022 01)

Chaplin, Charles (1825-91), a French painter, born at Andelys (Eure) of English parents. He soon found that his real vocation lay in painting portraits of women in the Watteau and Bouchers style. He managed to catch the piquant charm inanaged to catch the piquans series. In bion. It has been warm, and Cole-of Parisian women in his pictures. In bion. It has been warm, and Cole-1860 he painted the apartments of Dryden, Johnson, Pope, and Cole-the Louvre. His plays include both the Empress Eugénie at the Louvre,

Chaplin, Rt. Hon. Henry (b. 1841), an English statesman. He is the second son of the Rev. Henry C. of Blankney, Lincolnshire, and was educated at Harrow and Christ Church, Oxford. He first went into parliament in 1865 when he stood as Conservative member for Mid-Lincoln-hire. There he remained till 1906, when he was defeated, but he re-entered again in 1907 in a by-election, when he became member for Wimbledon. He is a well-known figure on the race-course, and his horse Hermit won the Derby in a snowstorm in 1867. He takes a great interest in agricultural questions, is a typical specimen of an 'English country gentleman.' In 1889 he became president of the new Board of Agriculture with a seat in the cabinet, and he kept this position till 1892. He was always an advocate of pro-tection, and when Mr. Chamberlain began his Tariff Reform campaign, C. was one of its most ardent supporters. From 1895-1900 he was president of the Local Government Board, and was responsible for the Agricultural Rating Act. He married a daughter of the third Duke of Sutherland in 1876, who died in 1881.

Chapman, a small itinerant tradesman. In the 18th century he sold chapbooks, needles, laces, linen, and all sorts of things, and bought up old brass, old clothes, and sometimes

human hair.

Chapman, George (1559-1634), English dramatic poet and translator of Homer. Probably born in Kent, educated at Trinity College, Oxford, which he left for London about 1576. career, was patronised by Sir Thomas Walsingham, Henry, Prince of Wales, and Carr, Earl of Somerset, and became friendly with Shakespeare. Spenser, Daniel, Marlow, Jonson, and Inigo Jones, the architect, who after his death designed a monument for him in St. Giles-in-the-Fields. z, translation of Homer, the earliest in English, appeared in two parts, the a Huad in 1598 and the Odyssey in 1614. His version is one of the most faithful to the original we possess in verse, but he loses much of the fire and spirit of Homer by reason of his metre, which is the fourteen-syllabled rhyming line of Drayton's Polyol-bion. It has been warmly praised by and afterwards the bathroom at the Louvre, radge. His bass include of the land afterwards the bathroom at the tragedies and comedies. The chief Elysée. His best works are: 'Les Bulles de Savon,' 'The Birth of boise, 1607; Cæsar and Pompey, Venus,' 'The Bath,' and 'Rising in 1608; Charles, Duke of Biron, 1609; the Morning.' He was also an excellent engraver, and made engravings of many of Decamps and Watteau's phonsus, Emperor of Germany, and pictures, and also of some of his own.' Revenge for Honour. His best comedy, Apprentice. He also published several other translations and various poetical works, including a masque performed by the societies of Lincoln's Inn and the Middle Temple to celebrate the Princess Elizabeth in 1613.

Chapman, John (1801-54), an English political writer, born at Loughborough in Leicestershire. He failed in business, which was that of a lace manufacturer, in 1834, and went to London and became editor of the Mechanics' Magazine. He invented improvements in the 'four-wheeler,' which eventually led to the hansom cab. He wrote The Cotton and Com-

merce of India in 1851.

Chapman, Walter, see CHEPMAN. Chapone, Hester, née Mulso (1727-1801), an English essay writer, and an ardent admirer of Richardson the novelist. She wrote Letters on the Improvement of the Mind in 1772, and this was very popular in girls' educa-tional circles. This essay was very often found bound up with Dr. Gregory's Advice to a Daughter. Her complete writings may be found in vol. xviii. of Chalmers's British Essayists, 1856-57.

Chappe, Claude (1763-1805). French mechanician, born at Brulon, Nor-mandy, the nephew of Abbé Chappe d'Auteroche, the astronomer. He was the inventor of a form of telegraph. on the same lines as that invented by Dr. Hook and modified by Amontons. which he presented to the National Assembly in 1792. It was successfully tried between Paris and Lille, and

soon came into general use.

Chappe d'Auteroche, Abbé (1722-69), a Froborn at Mauriac. a French astronomer, auriac. In 1760 he was sent by the Academy of Sciences to Tobolsk to witness the transit of Venus of 1761, and in 1769 to California to observe another transit.

skin on the backs of the handsthrough cold weather. This happens in a worse degree if the hands are exposed to cold air after washing and then not being absolutely dry. Grease should be well rubbed in to keep the skin elastic and soft, but if some of the gracks are yery troublesome, then cracks are very troublesome, then Chapter-house, the building in flexile collodion may be used to cover which the chapter (q.r.) of canons of

Eastward Hoe, written in conjunc- Dublin, from 1637-1640, and then tion with Jonson and Marston, was bishop of Cork and Ross in 1638. the inspiration of Hogarth's Idle After Strafford's fall, he was put into prison for a short time in Dublin in 1641 and at Tenby in 1642

Chappell, William (1809-88). an English musical antiquary. He managed his father's business (a firm of betrothal of the Palsgrave and the piano-makers). He published A Collection of National English Airs. consisting of Song, Ballad, and Dance Tunes, in two volumes, between 1838-40. which he afterwards extended and reissued under the name of Popular Music of the Olden Time. he founded the Musical Antiquarian Society, as well as the Percy Society. For this latter society he edited Dowland's songs, and assisted in the preparation of the *Percy Folio* in 1868. In 1869 he produced in three volumes his notes on the *Roxburghe Ballads*. which contain a vast amount of archeological information. He also wrote a History of Music in 1874.

Chapra, or Chupra, chief tn. in Saran dist. in Bengal, India, 32 m. from Patna. It has lost its commer-

irom Patna. It has lost its commer-cial importance, but still has many banking houses. Pop. 46,000. Chaptal, Jean Antoine, Count de Chanteloup (1756-1832), a French chemist and statesman. Born at Nogaret. Lozère; graduated in medi-cine at Montpellier in 1777, and settled to scientific study in Paris. In settled to scientific study in Paris. In 1781 he became professor of chemis-try at Montpellier, and made many discoveries of considerable com-mercial value. Though in the main a supporter of the Revolution, he was imprisoned by the popular party in 1793, but was soon released to become director of the salpetre works at Grenelle. In 1796 he became a member of the Institute, in 1800 a councillor of state, in 1891 Minister of the Interior, and in 1805 grand officer of the Legion of Honour, and Author of several works a senator. on chemistry.

Chapter, originally an assembly of Chapped Hands, the cracking of the monks or canons, now the body of ecclesiastics, known as canons, attached to a cathedral or collegiate church. They are presided over by a dean, and are considered as the council of the bishop. The term is used in both the Anglican and Roman Catholic churches.

the cracks, and soap applied as seldom a monastic establishment, cathedral, as possible. or collegiate church, meets for the Chappell, William (1582-1649), Bis-discussion of its affairs. They are hop of Cork and Ross. He was born often elaborately designed and ornaat Laxton in Nottinghamshire. Arch-mented, and usually polygonal, or bishop Laud favoured him, and octagonal, as at Lichfield and York, through his influence he was made in shape. Benedictine Cs are dean of Cashel in 1633. Afterwards usually square, as at Canterbury, but he was provost of Trinity College. Westminster has an octagonal C.

and Worcester a circular. The C. at or acted. In the latter, which form Lincoln is a decagon. York C. is a favourite drawing-room amusestill to be seen on the walls at Westminster. At Ripon the usual central shaft is replaced by two central pillars supporting the ceiling, and there is an apsidal end. In position, the C. usually lies to the W. of the transepts of the church, from which it opens either directly or by a passage. Crypts are occasionally found beneath the floor.

Chapu, Henri Michel Antoine (1833-91), a celebrated French sculptor. He was born at Mée (Seinc-et-Marne), and was a pupil of both Pradier and Duret. He became a member of the Ecole des Beaux Arts in Paris in the year 1849 and won the Grand Prix, and in 1855 the medal. His first work shown in the Salon was ' Mercury inventing the Caduceus,' and it is now in the Luxembourg at Paris. His strong point in sculpture was his extremely able portrayal of tenderness and charm in woman. His most typical charm in woman. His most typical pieces of work are 'Princess Helene at the Tomb of the Duc d'Orléans, now at Dreux; and 'Youth' in memory of Henri Regnault. His 'Joan of Arc at Domrémy' in the Luxembourg is not his best work.

Chapultepec, a tn. of Mexico, about 11 m. from the metropolis. It is strongly fortified, and possesses a castle which is situated upon a rock The town was almost 200 ft. high. taken by General Scott in 1847.

Char, see CHARR.

Char, or Charra, a tn. of E. Africa. It is situated on the R. Tana, 4 m.

from its mouth.

Char-à-banc, a large four-wheeled vehicle in the form of a wagonette with benched seats from side to side and facing driver. There is an alleyway in the middle. Drawn by two or four horses according to size. Used principally for picnic parties.

Characeæ, an order of the green Algæ of which the species inhabit fresh and brackish water of pools and slow streams. They emit a nauseous offensive odour, and near Rome they are pestilential. They are interesting on account of the facility with which they exhibit the circulation of their fluids.

Characteristic (of a logarithm), see

LOGARITHMS.

Charade, a kind of riddle, consisting of the subdivision of a complete word, which forms the answer, into its component syllables or letters. A certain amount of information is given of refrigerators. each syllable or letter, and also of the

remarkable for still preserving the ment, the scenes—one for each beautiful original stained-glass win-syllable of the word, and one for the dows, while the original frescoes are word itself-are arranged to introduce plainly, though not obtrusively, the syllable or word in question. Cs. are usually extemporised, half the company retiring and concocting scenes which they return and act to the remaining half, who attempt to guess the word. Written Cs. for acting may also be bought. In dumb

family of cos-

nging to the group Limicolæ of the Charadrii-There are about 120 species formes. which include the various plovers,

the sandpiner, and the snipes. Charadriiformes, plover-like birds, form the eleventh tribe in Gadow's classification, and comprise several hundreds of species of various habits. The group is subdivided into the Limicolæ, birds which wade and fly. e.g. the oyster-catcher; the Lari, which swim and fly, e.g. the gull; the Pterocles, which are desert birds, e.g. sand-grouse: the Columbæ, good flyers, e.g. dove; and sometimes a fifth group is added, Alca, marine birds, e.g. the auk.

Chargeas, a genus of moths of the owlet-moth family or Noctuide, is represented in Britain by several species. The larvæ feed upon roots, and pupate under ground. Ch. graminis is common in Sweden, where the caterpillar frequently proves de-

structive to the pastures.

Charala, a tn. of Colombia, in the

dept. of Santander, 120 m. N.E. of Bogota. Pop. 11,000. Charcoal, a blackish residue consisting of impure carbon, obtained by removing the volatile constituents of animal and vegetable substances. It is a porous solid, burning without flame or smoke, obtained by the im-perfect combustion of organic matter. Various different kinds are produced from wood, sugar, bone, and coal (giving coke and gas-carbon). Woodcharcoal results from strongly heating wood. If for fuel, it is best prepared by partial combustion of wood in heaps; for gunpowder the wood is charred in externally heated cylinders to avoid the introduction of grit. Brown C., used in preparing 'cocoa powder, is prepared at a lower tem-perature. Wood-charcoal is used as a fuel, a polish, a filter, and an absor-bent of gases and aqueous vapours; also, as a non-conductor of heat, for packing round cold storage-rooms or

Animal-charcoal, or bone black, is re-united whole, which then has to be produced by dry distillation of bones guessed. Cs. may be either written and ivory. It contains mainly calcium and magnesium phosphates, and is often manufactured from residues obtained in glue and gelatin indus-Its decolourising power was applied in 1812 to the clarification of syrups obtained in sugar-refining, but other reagents have now replaced it for this purpose. It is also used as a deodorant and for crayons.

Charcot, Jean Baptiste Etienne Auguste, a living French Antarctic explorer. He commanded the French Antarctic Expedition of 1903-5 and also that of 1908-10. The latter expedition sailed on August 1908 from Havre in a vessel called the Pourouoi-pas? It was one of the best fittedout and up-to-date vessels that ever put out on such a quest. The expedition resulted in much very valuable information, as the whole affair had been carried through most scientifically. A new coast-line in 70° S. was mapped, as also was Graham Land. Adelaide Island, Alexander Land, and Deception Isle. Much work was done with regard to the sea, such as soundings, surface and deep-sea temperatures, deep-sea dredging and fishing with tow and vertical nets. The ex-pedition came back to Rougn in June 1910. Dr. Charcot published an account of his explorations in Le Français au Pole Sud in 1905, and Le Pourquoi-Pas? dans l'Antarctic

in 1910.

Charcot, Jean Martin (1825-93), a French physician who was born in Paris on November 29. He gra-Paris on November 29. Paris on November 29. He graduated as M.D. of Paris University in 1853, and three years later he became physician of the Central Hospital Bureau. In 1860 he was appointed professor of pathological anatomy in the medical world of Paris, and in 1862 he began his connection with the Salaktine with nection with the Salpetrière which lasted all his life. He was elected to the Academy of Medicine in 1873, and in 1883 was made a member of the institute. He was a good linguist and had an excellent knowledge of the literature of other countries as well as his own. He was a great clinical observer and pathologist. He spent much of his time in studying obscure morbid conditions such as hysteria in relation to hypnotism. His work at the Salpétrière was chiefly in the study of nervous diseases, but be-sides his labours in the field of nerves he also published many able works on the subject of liver and kidney His complete diseases, gout, etc. His complete works came out in nine volumes between 1886-90. He was extraordinarily successful as a teacher, and his

Chard, a municipal bor, and mrkt. tn. of Somersetshire, England, situated within a mile of the Devonshire border, on high ground, between the Bristol and English Channels. It is of great historic interest, being the scene of a victory gained by the parliamentary forces during the Civil War. Judge Jeffrey held here in 1681 one of his 'bloody assizes.' There are manufs, of linen collars, lace, and iron and brassgoods. Pop. (1911) 4568. Chard, John Rouse Merriolt (1847-

97), an English soldier who defended Rorke's Drift successfully with Lieu-Bromhead and 140 against 3000 Zulus. He thus saved Greytown and Helpmakaar. made sure the retreat of Chelmsford's forces. This was fought on the night of the Isandhlwana disaster, January

22, 1879. Chardin, Jean Baptiste Simeon (1699-1779), a French painter, born in Paris. He was a pupil of Coynel, whom he copied as regards detail in nature. His early work was pictures of still life, and they were often thought to be Flemish work. He was the first French artist to depict middle-class life. This he did with great truth and also refinement, and were in contradistinction to the work of contemoraries who always depicted the fêtes galantes of their time. The majority of his pictures are in the Louvre at Paris, but the National Gallery has one example and Dublin has his 'Card Tricks.'

has his 'Card Tricks.'

Chardin, Sir John (1643-1713), an Eastern traveller, born in Paris, the son of a jeweller. During 1664-70 he visited India and Persia, spending some years at Ispahan, where he acquired much useful knowledge, and was employed as a royal agent for the purchase of jewels. After revisiting Paris, he returned to Persia in 1671, remaining there till 1677. In 1681 he settled in London, where he was knighted by Charles II., elected a fellow of the Royal Society, and employed on diplomatic missions. employed on diplomatic missions. His Travels in Persia and the East Indies (3 vols.) appeared 1686-1711.

Charente, a dept. of France, formed out of the old prov. of Angoumois, with portions of Saintonge, Poitou, Marche, Limousin, and Périgord. Area 2306 m., divided into the five arrondissements of Angouleme, Barbezieux, Cognae, Confolens, and Ruffee. Watered by the Charente, Vienne, and Dronne, the last forming the southern boundary. The greater part of the surface is undulating, with a light warm soil resting upon many followers were most enthusi astic in their work. He died very district in the N.E. is hilly, with suddenly at Morvan while away on a holiday. Granite, limestone, iron, and gypsum the Vendean rebellion against the

Charente, River, a river of France, rising in Haute-Vienne, 14 m. N.W. of Chalus, and flowing W. through

-Inférieure into the island of

a. Tributaries, Boutonne on the right, and Trouve

and Né on the left bank.

Charente-Inférieure, maritime dept. of S.W. France, formed out of most last Hoche took him prisoner and had of the old provs. of Aunis, and parts of Saintonge, Poitou, and Angoumis, and including the islands of Ré and Oléron. Area 2790 m., divided into the arrondissements of La Rochelle, St. Jean de Angély. Jonzac, Marennes, Rochefort-sur-Mer, and Saintes. Watered by the Charente, Boutonne, Sèvre-Niortaise, Seudre, and Gironde. Surface level, with very fertile soil. Grain, vines, satisfactory, though jovice and maximotatoes, pulse, hemp, flax, beets, mite are used for armour-piercing potatoes, pulse, hemp, flax, beets, and fruit are grown, and much live-stock reared. The chief industries are agriculture, the distillation of Cognac brandy, the working of the salt-marshes on the coast, and the pilchard and oyster fisheries. Capital. La Rochelle. Pop. 456,200.

Argives, Arcadians, and Thebans; in 361 defeated the democratic party at Coreyra; in 358 compelled the execution of the Convention of Athenodorus in Thrace, and in 357 took over the command of the Social War. His successes seem to have been largely due to party influence and corruption.

Chares of Lindus, in Rhodes, Greek sculptor of about the 4th century B.C., a pupil of Lysippus. He is the traditional author of the Colossus at Rhodes, one of the Seven Wonders of the World. This, which was a bronze statue of Apollo, was destroyed by earthquake in 224 B.C.

Chares of Mitylene, master of ceremonies at the court of Alexander the He appears to have held Great. several military commands, but in this connection there is confusion with Chares the Athenian general. Small portions of his book of anecdotes about Alexander are still extant.

are found. There is extensive forest french Revolution. He was born at land, and grain, potatoes, vines, Couffé, near Oudon (Loire-Inférieure). beets, hemp, flax, and truffles are He was made chief of the Lower Vengrown. Chief manufactures: paper, dée in 1793, and as he had many felt, and woollen and cotton goods, successful encounters with the revo-Cap. Angoulème. Pop. about 360,300. Royalist army against Nantes (June 1793). C. was then unsuccessful, but he began a harassing guerilla war-fare. An armistice was made between C. and the Convention early in 1795, but it did not last long. After the defeat at Quiberon (June 27, 1795) Hoche pursued him relentlessly, and defeated him again and again. him executed on March 26, 1796.

Charge, the gunpowder or other explosive with which a gun, torpedo, or projectile is loaded. A gun is designed to fire with the greatest speed when loaded with a 'full' or 'service' C. 'Reduced' Cs. are used in practice and high-angle firing. * Bursting Cs. are used for projectiles, fine black gunpowder being the most generally

shells.

Charge, in law, in a wide sense denotes a duty or obligation imposed upon some person in a will, or deed, or contract, or in some transaction collateral thereto. More strictly C. denotes a mortgage, lien, hypotheca-La Rochelle. Pop. 456,200.

Charenton-le-Pont, a tn. of Seine. France, at confluence of Seine and Marne, 1 m. S.E. of Paris. Has a fort, lunatic asylum, and many country houses. Pop. 17,758.

Chares, an Athenian general of 4th century B.C. In 367 he was sent to assist the Philasians against the minister, in connection with the Arrives Arcadians and Thebans: in Ministers for Foreign Affairs, from Ministers for Foreign Affairs, from

minister, in connection with the Ministers for Foreign Affairs, from the head of which department he holds his credentials. He may either act as a representative at a minor court or be empowered to take the place of an ambassador in his absence.

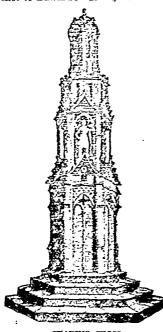
Chargeurs Réunis, a French line of steamships, with a fleet of twenty-five ships (1910) having a gross tonnage of 144,441 tons, running between Havre and Indo-China, East Africa, and the South American ports. The head office is in Paris, and was established

in 1872.

Charing Cross, a dist. of London, England, at the W. end of the Strand and on the S.E. side of Trafalgar Square, within the city of Westminster. It takes its name from the stone cross which was erected by Edward I. to mark the last resting-place of the coffin of his queen, Eleanor, before her interment in Westminster Abbey. A fine modern cross has been erected in Charette de la Contrie. François the courtyard of the South-Eastern Athanase (1763-96), was the leader of and Chatham Railway Station. The

504 origin of the name, 'Charing,' is His works are quoted in the Digest.

ence to Edward's 'dear queen.



CHARING CROSS

horses harnessed abreast, as was also generals made triumphant in shape, and, unlike most Cs., closed

doubtful, although popular tradition and from internal evidence he is derived it from 'chère reine' in refer- supposed to be the last jurist of the classical period of Roman juris-prudence. The three books of which portions remain are Liber singularis de Testibus; Liber singularis de

de Testivus; Liver singularis de Muneribus cirillibus; and Liver singularis Officio Prafeti pratorio.
Charité, La, a tn. of Cosne, Nièvre, France, on R. Loire, 14 m. N.W. of Nevers. Has trade in grain, wood, Nevers. iron, and wool, and manufactures ironware, hosiery, boots and shoes,

soap, etc. Pop. 5000.

Charites (Lat. name Gralia), the Graces, were the daughters of Jupiter and the goddesses of beauty and grace. They were three in number, Aglaia (Brilliance), Euphrosyne (Mirth), and Thalis (Luxury), and were generally in attendance on Approdite. They presided over physical exercises. dancing. festivals, and were the patrons of poetry and art. through which they were closely allied to the Muses. They are generally represented as young, beautiful, nude girls, holding each

other by the hand. Charities (Charitable Trusts and Uses, Superstitious Uses). The term 'charity' popularly connotes the relief of poverty. No such restricted meaning attaches to the term C. in law, indeed one judicial decision defines 'charity 'as a gift to a general public purpose, which extends as well to the rich asto the poor, but although not really susceptible of any precise definition, a sufficiently accurate conception of its signification is to be inferred from the purposes which the law has interpreted as 'charitable' in the construction of testamentary Chariot, a kind of two-wheeled purposes. In law C. and charitable carriage, used both in peace and war uses or trusts are interchangeable in ancient times by the Eastern terms and the decision of the question nations, Egyptians, Assyrians, Baby-whether a purpose is or is not charit-lonians, Greeks, Romans, ancient able depends upon a long line of Britons, etc. Various forms of judicial precedents more or less reable depends upon a long line of Cs. for different purposes are depicted motely based upon the enumeration in monuments, etc. The most familiar of a varied list of C. in the preamble type is the war C., usually drawn by of a statute passed in the forty-third two horses. That of the Homeric year of the reign of Elizabeth. The heroes is partly formed of open rail objects or C. therein enumerated work, the Roman pattern is rather comprise the relief of ared, impotent, beavier, and that of Eastern nations and poor people; the maintenance of still more solid. Some Eastern peoples sick and maimed soldiers and marihad scythes attached to the wheel-ners; schools of learning and free axies of war-Cz. The quadriga or schools of universities; the repair of racing chariot, was drawn by four bridges, ports havens causeways. bridges, ports, havens, causeways, churches, sea banks, and highways; the Roman 'currus triumphalis,' on the education and preferment of orphans; the relief or maintenance of entries into Rome. This was round houses of correction: marriages of poor maids: supportation aid and help of young tradesmen, handicrafts-Charisius, Aurelius Arcadius, Rom. men and persons decayed, the relief jurist of about the 4th century A.D. or redemption of prisoners or captives

and the aid or ease of any poor in main (see Normann), rif s for super-habitants concerning payment of the second in the second it is not easy to discern any common defined principle underlying them. In the eye of the law only those trusts are charitable whose object is at least intended to be for the public benefit whether, if carried out, it would actually benefit the community or not, e.g. a trust of funds to further the movement for the suppression of vivisection is a valid charitable trust, although both the court and many lay minds might be of the opinion that such suppression was contrary to public interests. A generally accepted modern definition of C. or charitable trusts is that of Lord Macnaghten in a decision given in 1891, to the effect that such trusts are 'trusts for the relief of poverty, trusts for the advancement of education, trusts for the advancement of religion, and trusts for other purposes beneficial to the community, not falling under any of the preceding heads. A trust for the benefit of particular individuals named by the donor is not a charitable trust, and would therefore fail if and in so far as it contravened the rule against perpetuities (q.v.), a trust or use for charitable purposes being the only class of gift which by the English law is permitted to infringe that rule—the purpose of which is to rond the I

a trust for

be no great degree of certainty as to the objects intended to be benefited by a charitable trust, provided only the donor evinces a general intention of charity. Hence in a case where a testator left a legacy in trust for charitable or philanthropic purposes' the court decided that as notl

hat tue particular charitable purpose expressed by him cannot be carried out le.g. where the institution proposed to be benefited is not yet in existence) will not involve the complete failure of the trust; for the court will remedy the difficulty by carrying out the purpose cu-pres, i.e. as nearly as possible to effectuate the donor's intention. This is done by inviting the Charity Commissioners to submit a scheme for the approval of the court. According to various legal decisions, founded

habitants concerning payment of taxes. A number of these objects savour of medieval ideas, and apart from the fact that the enumeration has never been held to be exhaustive, the rites of a religion not tolerated by the law. The effect of the Toleration Act combined with present day public opinion, make it impossible to say that any form of religion is not tolerated by the law, and the meaning of the term superstitious use can seemingly only be inferred from the different purposes which have been declared superstitious, e.g. gifts for saying masses for the dead, or for maintaining a lamp in a church. The various Acts of parliament removing the religious disabilities of Roman Catholics and Jows, Unitarians and other dissenters, have resulted in gifts being 'charitable' which would otherwise have been deemed super-stitious; but these relieving Acts will not operate to reader which were not operate to render valid any trust which is superstitious in the old sense without being charitable. The Scottish Scottish

against public 1 between charitable trusts or any other The law in Ireland, public trust. which is to be found in the Charitable Donations and Bequests (Ireland) Acts, 1844, 1867, and 1871, allows of bequests for saying masses either generally, or to commemorate the named dead. As to the statutory inability of C. to hold lands, and the exceptions thereto by reason of the Mortmain Acts. MORTMAIN.

Chariton, Greek process that had bably about the 5th century A.D. A bandisian in Caria. His Chariton, Greek prose writer of pronative of Aphrodisias in Caria. His one extant work, The Loves of Chareas and Callirrhoë, is an crotic romance, written in a pleasant and simple style. The best text, with Latin version and a commentary, is

that of D'Orville (1750). Charity Commissioners. The C. C. were appointed by the Charitable Trusts Act, 1853, for the better administration of charitable trusts (see CHARITIES). For the purposes of the C. C. a

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poses, subject to express exemptions in the Charitable Trusts Amendment Act. 1855. These exemptions comprise the universities of Oxford, Cambridge, London, and Durham, Eton and Winchester Colleges, any building registered as a place of meeting for religious worship, the British Museum, funds under the control of the commissioners of Queen Anne's Bounty, any friendly or benefit on the analogy of alienations in mort- society, and, generally, any society

inistration of

for religious or charitable purposes wholly maintained by voluntary contributions. Exemptions under later Acts include parochial and prison charities, charity allotments, and the property of dissolved municipal cor-porations. The Act of 1853, together with the various amending Acts, gives the C. C. power to appoint new trustees of charities, but only with the consent of a majority of the trustees where the annual income of the charitable trust exceeds £50, and to advise trustees of charities in the adminis-tration of trust funds. Trustees who act on the advice of the C. C. are inby statute against all The C. C. are also emdemnified liability. powered to give permission to trustees of charities to sell, mortgage, or grant leases of land held subject to a charitable trust. An important power of the C. C. is that by which they can adapt the charitable intentions of a donor to the requirements of modern civilisation in cases where the literal execution of the donor's wishes has become either inexpedient or impracticable. (See as to cy-pres under Charities.) The court will not interfere with a scheme settled by the C. C except in a case where the commissioners have either exceeded their jurisdiction or formulated a scheme containing something wrong in principle or law. The administration of a charity by the C. C. may result in a considerable measure of economy, as their orders have the same effect as a judgment order or decree of the Chancery Division of the High Court, and moreover, they are invested with adequate powers of demanding accounts, instituting inquiries into the condition and management of charities, supervising the expenditure of income, and controlling the disposi-tion of the corpus or capital of the trust funds by the trustees. By the passing of the Board of Education Act, 1899, the powers of the C. C. in regard to educational charities were transferred to the Board of Educa-tion. The Act of 1853 makes pro-vision for the appointment of three C. C., two at least of whom must be barristers-at-law of not less than twelve years' standing, and two of whom are salaried. See Bourchier-Chilcott's Administration of Chari-ties, 1912; Tudor's Charitable Trusts, 1906; and Annual Reports of the Commissioners.

Charity Organisation Society exists, as may be inferred from its name, for the purpose of organising charitable relief, repressing mendicity, and improving the condition of the poor. In constitution it is a federation of a number of district committees, one or more in each of the poor law divi-

sions of the metropolis and one outside the metropolitan area, each committee being represented on a central council whose offices are situate at Denison House, Westminster, S.W. The principles and methods of the C.O.S. are to be gathered from a statement of the division of labour as between the council and the district committees to be found in the society's question and answer handbook and annual reports. The council's duties may be said to be educative, reformative, and co-operative. They include the principles of the said to be divided to the principles.

of co-operation on the part of all societies and individuals engaged in charitable work; the convention of special committees to report on questions connected with the administration of charity and the reform of charitable administration generally; and the suppression by prosecution or other-wise of impostors on the charity of the benevolent. The council also supervises and endeavours to strengthen and consolidate the work of the district committees. The district committees apply the principles of the council's methods by training workers among the poor, by bringing agencies and charitably-disposed persons into touch with each other, and by promoting local schemes for the aid of the poor and the spread of provident habits. The committees also receive and deal with applications for charitable help, taking care to test the bond fides of the applicants' statements, and to distinguish such cases as may be better dealt with under the existing poor law. The work of the C. O. S. on its educative and reformative side, combined with similar work on the part of other charitable societies, has no doubt played its part in the introduction of legislation in the shape of social reformative measures. The institution of labour exchanges, the provision of medical and other benefits under the Insurance Act, 1912, and the passing of the Old Age Pensions Act, 1908, have to a certain extent effectuated the work of the C. O. S. in the direction of recommending aged and infirm persons for pensions, and promoting improveín the administration ments medical relief and the alleviation and prevention of unemployment. the report of the Poor Law Commission still uncrowned by any legisla-tive enactment, however, much still remains to be done in the solution of the problems of poverty. It is to be observed that there are other societies who have adopted the style of the C. O. S.; but in most cases they are affiliated to this, the parent body. In

the colonies,

Charivari, a French term of un-certain origin, used for a wild uproar caused by the banging of pans and kettles, mingled with hissing, groaning, and shouting, expressive of disapproval of the people against whom it is directed. It was originally a regular wedding-custom in France in the middle ages, but later it was only used at unpopular weddings, particularly for widows or widowers who re-married too soon. The custom and name were introduced into French America where it became corrupted into 'shivaree.' The violence and coarse nature of the Cs. were strongly opposed by the Church, and in the 17th century the Council of Tours forbade them entirely under pain of The custom still excommunication. continues in some rural districts, and is similar to the notorious 'Haberfeldtreiben 'of the Bavarian peasants. In modern times the name C., from its suggesting satire and derision, has been taken as the title of various satirical papers, the Charivari (Paris). 1832, and as a sub-title for the English Punch.

Engish Funca.
Charjui, a tn. in Russian Central Asia, near the S. bank of the Amu Daria and 70 m. S.W. of Bokhara.
There is a bridgo, more than a mile long, across the river at C. built by the Transcaspian Railway. It has some trade in raw cotton. Pop. 6000.

Charkhari, a state in the Bundel-khand agency of Central India. The town of C. is 40 m. W. of Banda. Pop. 12,000.

Charlatan (It. ciarlatano, ciarlare, to chatter), introduced in the 16th century as the name for a group of the 'jongleurs' who amused the people by their 'patter' and buf-fooneries. The name quickly became peculiarly associated with 'cheap-jacks' and 'quack' doctors who wandered about selling their wares and patent medicines by imposing on the crowd with their 'patter;' hence the name has come to be used of any impostor who pretends to skill or knowledge which he does not possess

Charlemont, a fort in Ardennes, France, standing on a height of 700 ft. by the R. Meuse, near the Belgian

frontier, opposite Givet.

Charleroi, tn. of Hainault, Belgium. on R. Sambre, 9 m. S.W. of Namur. It is the centre of a great coal-producing region, and stands at junction of numerous railways which Junction of numerous railways which 1839; Gaston Paris, Historie Poetique distribute the coal all over Belgium. de Charlemagne, 1865; Ampère, Historie There are large iron foundries, the Charlemagne, 1868; Mullinger, The glass, nails, woollens and yarns, and Schools of Charlemagne, 1877; Vébrickyards. The C. Canal connects tault, Histoire de Charlemagne, 1876;

addition there are similar societies in it with Brussels. Formerly a fortress. Pop. 24,800.

Charles I. (c. 742-814 A.D.), son of Pépin le Bref, King of France and Emperor of the West. On his father's death, 768, he became king of Austrasia and Neustria, and on the death of his brother Carloman, 771, added his dominions becoming 71, added his dominions becoming 71, added his dominions, becoming su-preme ruler of the whole empire. From 761 he had accompanied Pépin on various military expeditions. He and

Holy largely due to his championship of Christianity. His war against the Saxons lasted from 772-804, some of the chief incidents being the storming of Eresburg, destruction of the Irminsul, the May-field at Paderborn (777). and submission of the Saxon leader, Wittekind. The result was the complete subjugation and Christianisa-tion of the Saxons. C. divorced his first wife, daughter of Desiderius of Lombardy, and married a German princess, Hildegard. In 773 Pope Adrian I. appealed to C. to crush Desiderius who was threatening Rome, and supporting the descend-ants of Carloman. By 774 the conthreatening queror had made himself also king of Lombardy. In 778 he fought against the Arabs in Spain. On his return he met with a reverse at Roncesvalles, where Roland and other famous paladins were slain by the Saracens. Then he waged border wars against Lombards, Bavarians, Avars, Bretons, and others (c. 788-800). In 800 Pope Leo III. crowned him at Rome as emperor of the West, with the title 'Cæsar Augustus.' In 808-810 he defeated the Danes, driving them backbehind the Eider. To protect his kingdom he erected marks or margravates in the border districts. In \$13 he associated his son, Louis the Débonnaire, with him in the government. Louis was the only son who survived him, and became his successor. His complete the belief the state of the successor. him, and became his successor. His empire at its height stretched between the Elbe and Ebro, reaching eastward to Hungary, and S. to Calabria. C. was a patron of music and learning, welcoming such scholars as Eginhard, Alcuin, and Warnefried at his court. His descendants were known as Carlovingians, forming the second dynasty of French kings. See Eginhard, Vita Caroli Magni, 1521, also German translation by Jaffé in Bibliotheca Rerum Germanicarum, 1839; Gaston Paris, Histoire Poélique

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lovingians, 1880; Haureau, Charle-magne et sa Cour, 1854; Gaillard, 1782; Histoire de Charlemagne, James, Life of Charlemagne, 1832; Von Gagern, Karl der Grosse, 1845; Schroeder, Geschichte Karl des Gros-sen, 1850; Sporschil, Karl der Grosze, sein Reich und sein Haus, 1846; Gibbon; Mombert, History of Charles the Great, 1888; Wells, The Age of Charlemagne, 1898; Abel and Von 1 3 fränkischen

'roszen, 1888; Heroes of Charlemagne,

Series, 1900. II. the Bald (843-877), Charles Roman Emperor and King of the W. Franks, son of Louis the Pious, was born in 823. The division of the empire on the death of Louis the Pious was the cause of the outbreak of war between the sons of that king. C. and Louis the German forced the Emperor Lothaire to make peace at Verdun, 843. C. received as his share of the spoils the western portion of the empire corresponding practically to Cæsar's Gaul. For a time the divided empire remained at peace. But C. was disliked by his nobles, and, further, was unable to cope with the attacks of the Norsemen which at this time became very serious. On the death of Louis II. C. received the crown of the empire, but Louis the German immediately invaded his kingdom and After the death of Louis

C. was called to Italy to devastation of the Saraci same time his nephew, Ca vaded Italy, and C. starte to Gaul, and died on the journey. He has been accused c

but his inability to attacks with the Nors largely to the lack of his nobles gave him.

Charles III. the Fat, Emperor of the Roman empire and King of the W. Franks. He was the youngest son of Louis the German, and received from his father the kingdom of Swabia. On the death of his two elder brothers he inherited the crown of the Roman empire (882). He proved himself utterly incapable of either ruling the empire which was at this time threatened by many dangers, or of retaining the affection of his nobles. The outstanding dangers to empireat this time were the Norsemen and the Saracens. His attempt to drive out the Saracens from Italy failed entirely, and he was only able to obtain terms with the Norsemenwho penetrated at this time as far as

Guizot, Charlemagne and the Car-| obtained from his wife led to a conspiracy of the nobility which deposed him (887). He died early in the next year.

Charles IV. (1316-78), Emperor of the Holy Roman empire and King of Bohemia. He was educated in France and married the sister of the French king, Philip VI. He was chosen as the German candidate for the empire in opposition to Louis IV. who had quarrelled with the papacy. He took part with his father in the battle of Creey, and succeeded to the kingdom of his father after that battle. He succeeded Louis IV. as emperor, and was supported by the pope, to whom he had granted practically the sovereignty of Italy. He entered Italy only to be crowned, and although the Romans implored him to redress their grievances he returned to Bohemia. He imprisoned Rienzi, who appealed to him on behalf of the Romans, and took no notice of the pleadings of Petrarch. He occupied himself with his German dominions which were at this t rom the ravag He succeeded exceedingly en aptly descri of the

Roman empire, since he relegated numerous privileges to the papacy, but he was certainly a great bene-factor to Bohemia. See Werunsky, History of Charles IV. and his Time. Charles V. (1500-58), Emperor of

> In 1516 Ferdi- recognised as " of Castile and Aragon in with his mother in 1517.

year he succeeded to the Hapsburg possessions on the death of his paternal grandfather, Maximilian, and two years later, in spite of considerable opposition on the part of France and the papacy, he was elected emperor. C.'s dominions were now widespread and various; he ruled Spain, and the Americas, parts of Italy (Naples, Sicily, and Sardinia), together with the Hapsburg posses-sions which were themselves a scat-tered collection of different races. The difficulties which he had to face during his reign were immense, and these difficulties began right from the beginning of his reign. Undoubtedly his position was made more difficult by the numerous territories and nationalities over which he had to rule. was hampered in Spain by the Cortes. Paris, which they besieged—by heavy in Germany by the diets, and there payments. The divorce which he was in almost every different part of

beginning of his reign can be shortly stated as coming: (1) From Lutheranism, a force which he found himself opposed to right at the beginning of his reign; (2) from the opposition to France, whose armies he had to fight in the first few years of his reign in order to keep possession of his Italian dominions; (3) the continually increasing Turkish power in the east of Europe, which was made more formidable by its alliance with piratical races of the north of Africa. These difficulties were only solved transitorily by C., and were con-stantly recurring. His religious policy became manifest from his first appearance at the Dict of Worms—the re-storation of Germany to the Catholic faith, and in this object he never fal-The diet condemned Luther and Lutheranism; the constant attempts of C. to restore Germany to Rome accounts to a very great extent for his failure in that country. The early part of his reign may be regarded as a constant struggle with Francis I., a struggle which ended only with the defeat and capture of Francis at Paris. In 1526 Francis, consenting to the terms of C., was released, and in the following year the Holy League was formed by his quondam allies and his hereditary enemy, Francis. In the same year an army of the emperor gathered from almost every part of his wide empire, at-tacked, captured, and sacked Rome, making the pope a prisoner. C. immediately disclaimed all responsibility for the act, but made use of the advantages which it gave him. In 1529 Francis and C. made peace at Cambrai. During the events of the earlier part of his reign C. had been resident in Spain. The Spaniards had not been altogether pleased by the election of C. to the empire, since it had rele-gated them to the background. They had therefore put numerous difficulties in his way, and had in many ways prevented him from raising a sufficiency of supplies for his wars. In 1529 C. was crowned emperor of rdy, the

the 'Protestant' League of Schmalkald. But the threatened persecution of the Protestants was stayed by political events. Whilst C. was emperor of Germany he would always be dependent upon the goodwill of his Protestant subjects for aid against the natural enemies of the empire. This time the difficulty arose in the E. The Turks were always a thorn in the

his empire a different system of side of the empire, and they now government. The difficulties of the threatened C., but the danger was avoided without war, and C. returned to Spain. In 1535 he stormed and captured the pirate stronghold of Tunis, and in the following year Francis again declared war. The war did not go fortunately for C., and in 1538 the intervention of the papacy brought about a ten years' truce. In 1539 C. commenced his policy of crushing the power of the provincial Cortes of Spain, which from this time gradually sank into disrepute, and in the same year he cruelly crushed the rising in the Netherlands, depriving the town of Ghent of all its privileges. In 1641 he again attempted to attack Tunis, but was unsuccessful, attributing his lack of success to an 'act of God. Waragain broke out with Francis, and this time that Christian monarch did not disdain alliance with the Turks. and Europe was horrified when the Turkish fleet anchored and wintered in Toulon. That most Christian monarch, Henry VIII., sprang to arms and assisted C. in his invasion of France, which forced on the Treaty of Crépy (1544), when the French claims on Italy were again repudiated. C. was now free to carry out the policy upon which he had set his heart, namely, the restoration of Germany to the Catholic Church. Previously he had been compelled by the exigencies of political events to keep on good terms with the Protestants. The Protestants appealed to arms, but the greater force of C. defeated them and made their leaders prisoners. The Interim of Augsburg followed, but failed to please either the Protestants or the Catholics. Finally the schemes of Maurice of Saxony succeeded, and the Protestants were able to demand terms which they had never expected. The legal recognition of Protestantism followed in the Peace of Augsburg of 1555, although this was far from being a final settlement. C.'s greatest and best loved scheme had failed. In addition to this, long and earnestly he had attempted to bring about the succession of his son Philip to the empire. This scheme was again defeated, and the double blow, together with the state of his health, led to his abdication in 1555. In that year he resigned the Netherlands, the most the and dearly loved of all his possessions, to his son Philip, in the following year he resigned the Spanish possessions. and in 1558 he formally resigned the empire, although his brother Ferdinand had been emperor in all but name since 1555. He spent the remaining three years of his life in retirement at Yuste in the valley of Estremadura, where he died in Sept. 1558. Personally C. was popular. In

persecutions were the extreme of sincere conviction, but were unfortunate. The Thirty Years' War was in itself the logical sequence of the Treaty of Augsburg. See Robertson's History of Charles V., and Life by

Armstrong VI. (1685-1740), Emperor of the Holy Roman empire, second son of the Emperor Leopold I., was born at Vienna. When the extinction of the Spanish Hapsburg house became apparent, he was put forward as the Austrian claimant to the Spanish inheritance. By the second spanish inheritance. By the second and parliament granted but small Partition Treaty he was to be recogn supplies and insisted upon the redress nised as the king of Spain, but on the demise of Charles II. of Spain, Louis Henrietta Maria, who was allowed to XIV. practically tore up the Partiset up a Catholic chapel at court and proclaimed by the allies as k to hold Catholic services. In the of Spain, and went to Spain in early stages of the war. mained there until 1711, meet with very little success, although he was supported by the Catalans, and even entered Madrid. But he was never popular with the Spanish people, and in 1711 he practically forfeited his claim when he became emperor. The idea underlying the war of the Spanish Succession was to preserve the balance of power, and C. was informed that an attempt to revive the domi-nions of Charles V. would not be permitted by the powers. He ultimately abandoned Spain and turned his attention to securing the succession to the Austrian throne for his daughter, Maria Theresa. He foresaw struggle which must arise on his death without male heirs, and he sacrificed much in order to get the Pragmatic Sanction recognised by the powers. During his reign the war with the Turks was brought to a successful issue by the Treaty of Passarowitz, but before the end of his reign he had lost almost all that he gained by that treaty. He died in 1740, the last male of his house.

Charles I. (1625-49), King of Great Britain and Ireland, the second son of James I. and his wife Anne of Denmark, was born at Dunfermline in Nov. 1600. He was created Duke of Albany on his birth, Duke of York in 1605, and four years after the death of his elder brother he received the title of Prince of Wales (1616). At an early age he took a lively interest in politimatters, and after 1620 fell under

his policy he was at least sincere, but pected complete tolerance for the the inheritance which he left to Catholics, and the prince anticipated Philip bore dire results. His religious Spanish help for his brother-in-law persecutions were the extreme of sin-The plans for this marriage failed, cere conviction, but were unfortu-England to urge James to declare war on Spain. In 1624 C. entered into a marriage contract with Henrietta Maria of France, and although both the king and the prince declared that no tolerance would be granted to the Catholics by the marriage treaty, this promise was not adhered to. He immediately called parliament together and promised no remission of the penal laws against the Catholics; but already his duplicity was known, and parliament granted but small supplies and insisted upon the redress

> parliament, and although he tried to menace it, victory really rested with parliament. He was already involved in difficulties, and to these difficulties was added a war with France. In 1628 his t'and passed the ch forbade of parliataxa ment and arbitrary and illegal imprisonment. C. was forced to consent to this. In 1627 the expedition to the to this. In 1627 the expedition to the Isle of Ré had failed, and in 1629 a similar expedition met with a similar fate and Buckingham was assassinated at Portsmouth. In the same year C. dissolved his third parliament, but not until they had passed a resolution condemning innovations in religion and the collection of tonnage and poundage. From 1629-40 C. ruled without a parliament. The eleven The eleven years' tyranny involved C. in many attempts to raise money for his immediate needs. In almost every way he roused the antipathy of his subjects; he levied tonnage and poundage, he sequestered estates, and this policy led to the loss of the support of London; he established a military tyranny in Ireland under Wentworth (Strafford). In 1634 he made his first levy of ship money, and in the following year he made another levy, this time on the inland towns as well. In 1638 came the great Hampden case, when C.'s right to levy ship money by the courts. His lso roused the ill-bjects. The High

matters, and after 1020 fer under influence of Buckingham. In 1623 bjects. The High went to Spain with Buckingham to Church was favoured, the Catholics attempt to bring about his marriage tolerated, and the Puritans persecuted. His Scottish policy precipiriage was unpopular in England and disliked in Spain. The Spaniards ex-Scotland for his Scottish coronation;

in 1637 this led to a riot in St. Giles' Cathedral and to the signing of the Covenant. A general assembly was called, but when this assembly proposed to discuss Episcopacy it was dissolved by the high commissioner. The assembly, however, refused to dissolve and abolished Episcopacy. Having done this, it prepared to meet the king in arms. The king, finding himself unable to raise sufficient forces. the advice of Strafford called liament. The Short Parliament parliament. met in 1640; it proposed to discuss grievances and was immediately dissolved. He again went north to attack the Scots, and again found it impossible to meet force with force. The result was that peace was made with the Scots practically on their own terms, and C. turned his attention to England, where in Nov. 1640 he called the Long Parliament. The result of the eleven years' tyranny had been hopeless failure. The parliament which met in 1640 was in no mood for trifling. The imprisoned members of his third parliament had bitter personal grievances, and the whole country was in favour of reform. The execution of Strafford was immediately decided on by the Long Parliament, and although C. had sworn that not one hair of his head should be touched, he was ultimately forced to consent to the execution of his great minister. Parliament forced concession after concession out of C. Parliament was only to be dissolved with its own consent, the Star Chamber and High Commission Court were abolished, and ship money was de-clared illegal. C. was, however, still intriguing and still trying to find some way in which he could escape from the clutches of parliament. In 1641 he was forced to listen to the Grand Remonstrance, and early in Jan. 1642 he made the disastrous attempt to imprison the five members. He rode back to Whitehall after his failure amidst cries of 'Privilege of parliament,' and now began to prepare for war. Hull refused to admit C. in April 1642, and in August C. raised his standard at Nottingham. The and spent the rest of his years of exile in wandering from one country to mentarians. The two great disasters with which the king met are Marston Moor and Naseby, where the New Moor and Naseby, where the New well in Sept. 1658 changed affairs in Model Army crush utterly. On May 5. Tendered to the Scot was taken to Newcastle of th of the years 1646-49 are complicated

in 1636 Laud's liturgy was introduced, parrive at a settlement with the Scots, he was surrendered by them to parliament in 1647. Negotiations were kept up by C. with all parties, but it was obvious that he could not be trusted. In 1647 he entered into the 'engagement ' with the Scots which resulted in the second civil war and the determination of the ultra-Puritans to bring the king to execution. In Jan. 1649, parliament having been cleared of all possible supporters of the king by Pride's Purge, resolved to bring the king before a high court of justice. On the 19th the trial began. The king refused to recognise the purificition of the court explore the jurisdiction of the court, and on the whole behaved with magnificent dignity and self-possession. His execution, however, was resolved upon, he was brought up to hear the sentence passed upon him on the 27th, and was not allowed to make any answer to the charges. He was executed before Whitehall Palace on Jan. 30, his last word being 'Remember!' See Lives by Chancellor and Skelton:

Charles II. (1630-85), King of Great Britain and Ireland, was born on May 29 at St. James's Palace. During the Civil War he was with his father during the early events, but after the defeat at Naseby he went to Falmouth, and from thence to Scilly. From Scilly he went to join the queen in Paris, and he remained there for two years. On the execution of his father in 1649, he was immediately proclaimed king in Scotland. He projected an invasion of Ireland, but in 1650, having signed the Solemn 1650, having signed the Solemn League and Covenant, he embarked for Scotland. On landing in Scotland he found himself in the power of the covenanting party, and was made to take a number of oaths which he had no intention of keeping. On Jan. 1, no intention of keeping. On Jan. 1, 1651, he was crowned at Scono, and on Sept. 3, his forces having penetrated England as far as Worcester, were defeated by Cromwell. C., who distinguished himself by his bravery during the battle, fled, and after wandering in disguise throughout the country for six weeks, got away in safety to France. In 1654, relations between England and France having

en put down early in May

by the maze of intrigue into which C. entered at this time. After failing to he was declared king at Westminster.

extrem

England, where he was received with enthusiasm everywhere. The general enthusiasm everywhere. The general rejoicings were soon to cease. C. had returned from his travels with two ideas firmly implanted in his mind; he would not again go on his travels, and he would have his own way in his own affairs. He was steeped in vice and immorality, was a secret Catholic, and had no patriotism. Innate selfishness is the dominant note in the whole of the policy of C. II.'s reign. The first seven years of his reign were passed under the domination of Clarendon. The Restoration settle-ment was not followed by any very great persecution, a number of the regicides were executed, but on the whole the Restoration was tolerant. The Cavalier parliament, however, restored the Church in England, and in a similar manner bishops were restored to Scotland. The early years of the reign were disgraced by the Dutch War, during which the Dutch even sailed up the Thames and destroyed the shipping there. In 1667 Clarendon was dismissed, and Buck-ingham and Arlington became the chief ministers; these, together with Lauderdale, Ashley, and Clifford, formed in 1672 the famous Cabal. It. was during this period that C. entered into those close relations with France which made him practically the pensioner of the French king, which gained him incidentally a fresh mistress in Louise de Kéroualle, and which cost England her natural foreign policy, which was obviously to attack the aggrandisement of France. In 1670 were signed the two secret treaties of Dover, the first of which pledged C. to the overthrow of Protestantism and gave him a pension of £200,000 per annum. The Cabal ministry met with considerable opposition in the country, and many of the acts of the king and his ministers. The Cabal at this time were unpopular in the extreme. The 'stop of the exchequer' ruined a number of people, and the second Declaration of Indulgence was declared illegal by parliament, and the Test Act was passed. Danby now became the chief minister, but even he was carried away by the policy of his royal master, and another treaty with France was signed, a treaty which gave France the control of our foreign policy. In 1677, however, William of Orange married Mary, the eldest daughter of James, Duke of York. Danby, whose share in the Lord. Danby, whose share in the throne. The Robertians were detreaty with France was disclosed by feated, but C. himself was byterachery Louis XIV. in revenge for his having brought about this marriage, only Peronne.

Charles IV. the Fair (1322-25), the solution of parliament. In the mean-last of the direct Capetian line, was

Towards the end of the month he time the country had been agitated sailed from Breda and landed in by the Popish Plot, a scheme put forward by Shaffesbury and the ultra-Protestant party. C. met it in the best possible way. He recognised that it had received general credence in the country, and he allowed it to con-tinue, knowing full well that in the course of time the falseness of it would be discovered. The Protestant party now pressed for the exclusion of James, Duke of York, from the crown. C., whilst reiterating that he would never consent to the Exclusion Bill, sent James out of the country for a short time, and declared his pleasure at the attempts to convert him to Protestantism. The exclusionists. Protestantism. however, went too far in asserting the claim of James, Duke of Monmouth, C.'s illegitimate son by Lucy Walters. The exclusionists, who insisted in the parliament of Oxford on the recognition of James, Duke of Monmouth, caused the dissolution of parliament, and C. which

> C. was supreme, he continued his intrigues with France, and did all he could to help on the aggrandisement of that country. His popularity was immense, and was increased by the discovery of the Rye House Plot, for which Sidney and Russell paid the extreme penalty, and he gradually began to attempt the restoration of

> the Catholic religion. His movements in this direction were barely apparent when he died. He declared himself a Roman Catholic on his deathbed. He left no children by his wife, but a numerous progeny by his many numerous progeny by his many mistresses. See *Life* by Airy. Charles III. the Simple (893-929),

King of France, the posthumous son of Louis the Stammerer, was born in S79. He was not called to the throne on the death of Charles the Fat, because of his extreme youth. In 893, however, he was recognised by some of the nobility as king, and was crowned at Rheims. He forced the de facto king. Odo, to cede him Neustria, and ultimately, on the death of Odo, he became king of all France. His reign is of great importance owing to the fact that by the Treaty of St. Clair sur Eptc he ceded Normandy Clair sur Epic ne ceded Normand; to the Norse leader Rollo, and thus established the future duchy of Normandy. The growth of the power of the king, however, roused the jealousy of the nobles, who made a conspiracy against him and placed Robert on the throne. The Robertians were defeated, but C. himself was by treachery

born in 1294, and succeeded his invasion of England. brother, Philip V. He tried to con-amounted, according to tinue the policy of augmenting the power of the central authority at the expense of baronial power, but in order to obtain money heresorted to dubious methods, such, for example, as the confiscation of the property of the Lombard merchants. with his sister Isabella the plot which

finally overthrew Edward II Charles V. (1364-80), King of France, sometimes styled Charles the Wise. was born in 1337. He was the son of King John II., and narrowly escaped the fate of his father at the battle of Poitiers. During the imprisonment of John in England he acted as ruler of the country. The beginning of the Hundred Years' War with Eng-land had brought many difficulties to the French monarchy, and C. was called upon to face these. The States-General when it met had demanded reforms which would have given them great powers, and would have made the king practically a constitutional monarch. The merchant and bourgeois classes had seized their opportunity to compel the ruler to make reforms, and in 1358 the Jacquerie added to the difficulties of the crown. Politically C.'s great struggle was with the king of Navarre (Charlesthe Bad), whom he ultimately managed to overcome. The Treaty of Bretigny brought with it the return of John, who, however, was unable to raise his ransom, and returned to England, where he died in 1364. C. was now able with the aid of Bertrand du Guesclin to put down the most formidable of his foes and to get rid of a number of the Free Companies that were ravaging the country, and order was at last restored. War was now renewed with the English, and C. was successful in winning town after town until by 1380 only a few towns remained in English hands. In 1378 he made a premature attempt to annex the duchy of Brittany to the French crown, but his attempt brought in its train a national rising. Before any settlement was made C. died. Charles VI. (1380-1422), the son of Charles V. and the first of the French

princes to bear the title of the Dauphin from birth, was born in 1368. He succeeded to the throne at the age of twelve, and during his minority France was governed by the dukes of Berry and Anjou. The excesses of the regents brought with them rebellion in the chief towns of both N, and S. France. The northern rebels were at first successful in robels were at first successful in winning for themselves terms, but those of the S. were ruthlessly crushed.

His forces amounted, according to Froissart, to 20,000 men-at-arms, 20,000 crossbowmen, partly Genoese, and 20,000 stout variets. A fleet almost innumerable, 1287 vessels according to some, was collected on the coast of Flanders; and an enormous wooden He arranged bulwark was constructed capable of sheltering, it was said, the whole army from the dreaded archery of England; it could be taken to pieces and replaced at pleasure. But various delays, whether from contrary winds or other causes, prevented the sailing of the fleet, or a tempest so far shattered it as to frustrate its object. In 1388 C. asserted his authority by driving from power the royal dukes and appointing ministers of his own, who, because of their humble origin, were called the 'Marmousets.' In 1392, however, C., whose constitu-tion had been undermined by excesses, had his first fit of madness, and this was followed by others of such frequent occurrence as to show that it would be unlikely that C. would be able to rule personally. The royal dukesimmediately regained their power in France, and the struggle commenced between the Burgundians and the Orleanists. Externally, during the latter years of the century, affairs were quiet. Peace had been restored with England, but this again was upset by the deposition of Richard II. (C.'s son-in-law) and the accession of Henry IV. The struggle between the Burgundians and Orleanists was now pronounced and matters were brought to a head by the murder of Orleans in 1407. The Burgundians for the time held the upper hand, and in league with the Parisians forced the king to do their will. In 1413 the Orleanists entered Paris and drove the Burgun-dians into the arms of England, with whom they concluded an alliance. Henry V. put forward the claim to the French crown and invaded France. In 1415 Agincourt was fought, and in 1418 Paris was captured by the Burgundians. In the following year John the Fearless was assassinated, and the Burgundians definitely became the In 1420 the allies of the English. Treaty of Troyes, followed by the marriage of Henry V. to the daughter of Charles VI., took place, and Henry became practically master of France.

Charles VII. (1422-61), King of France, the fifth son of Charles VI., was born in 1403 and became lieu-tenant-general of the kingdom in His power and authority, 1417. however, sank after the murder of John the Fearless in 1419, and by the Treaty of Troyes he was passed over in the succession to the The English gave some aid to the passed over in the succession to the rebels, and C. prepared a fleet for the crown. He retired to Mehun, near Bourges. some time. On his father's death he was recognised as king of France by the southern provinces, but he gradually lost all hold on the N., and the victories of the English during the early part of his reign lost him still more power. The central provinces of France were involved in internal civil struggles, and C. seemed to have no hope of success when the 'Maid of France' came to his rescue and led him to success after success. Orleans s crowned at

the ingrati-

gave Jeanne d'Arc a prisoner to the hands of the English. Later in his reign C. recognised the services of the 'Maid of France. After 1435 affairs in France assumed a brighter state since the Duke of Burgundy joined forces with the French in driving out the English. The English were gradually driven out of their French possessions until by 1455 they retained only Calais. In the meantime C. had had difficulties to face at home, and had managed to restore order both amongst the nobility and the people. Most of the king's councillors were drawn from the bourgeoisie, and most of C.'s ministers served him well: for this reason the title of Charles the Well Served is often applied to him. During his reign the power of the central authority was greatly increased and by the end of his reign France had once more begun to settle down to

days of peace and prosperity.

Charles VIII. (1483-98). King of
France, the only son of Louis XI.,
was born in 1470. He succeeded his
father, and although he was declared capable of ruling he left the government of the country in the hands of his sister. Anne of Beaujeu. He was not increased by the married in 1491 the Duchess of Brittany, thus uniting the last in 'Royalism' in France on t dependent duchy in France to the of the divine right of kings.

the reins of government for

He, however conceived wi romantic projects. He decided to attempt to obtain the kingdom of Naples, to reconquer the Eastern empire and to become its emperor. To obtain this desire he sacrificed everything: he entered Naples in 1495, but was unable to proceed any further with his plan since a coalition of the powers was formed against him. He was forced to return to France, and here whilst preparing for a second expedition, he died. Charles IX. (15:6-74), the third son

and remained there for mother. He was a youth of extreme មួយថ្ង had very weakness. tastes. He was passionately devoted to the chase, but his excesses under-mined his constitution. He married in 1570 Elizabeth of Austria. the appearance of Coligny at the French court, he showed great friend-liness, but his weakness and his fanaticism were so eleverly played on by the Catholic party that in 1572 was perpetrated the massacre of St. Bartholomew's Day. After this event C. aged rapidly, and at the time of his death he appeared to be an old

his death he appeared to be an old man worn out by fever and nightmare.

Charles X. (1824-30), King of France, the son of the Dauphin, the son of Louis XVI., and hence a brother of Louis XVI., was born in 1757. His youth had been passed in the wildest dissipations, and he had made himself and his party exceedingly uncouler in France. He beingly unpopular in France. He became the leader of the ultra-Royalists on the outbreak of the French Revolution, and in 1789 he left France to become the leader of the Emigrés. He visited many of the courts of Europe, attempting to gain help for the Royalist party. In 1795 he landed in France to put limself at the head of the rising of La Vendee, but his courage failed him, and he left the Royalists of the W., unsupported to be crushed by the ferocity of Hoche. He lived for the rest of his period of exile in Holyrood Palace, and later at Hartwell. In 1814 he returned to France, and during the reign of his brother Louis XVIII, he was at the head of the party of ultra-Royalists and was successful in gaining the day for the party of reaction. On his accession in 1824 he speedily became popular, but his popularity was not increased by the obvious efforts which he made to restore 'Royalism' in France on the basis His re-

, he ets. He had no desire to become a constitutional monarch, and, although he was compelled to get rid of the unpopular minister Villèle, hestill showed no signs of giving up the Royalist pre-tensions. The compromised ministry which he set up failed to please him, and he dismissed it. In 1830 the elections having gone against him and finding violent opposition in the Chamber of Deputies, he suspended the constitution. The result was the outbreak of a revolution which C. at of Henry II. and Catherine of Medici, first did not treat seriously. The king was born in 1550. He succeeded to retired from Paris, and, when the throne at the age of ten, and seriousness of the state of affairs was naturally the chief power still research in the hands of the queen favour of his grandson. Louis Philippe,

Duke of Orleans, however, was chosen the Two Sicilies he had shown his king, and C. retired again to England. Ho died at Göritz, where he had benevolent despot, now he proceeded retired for his health, in 1836.

Charles II. (1665-1700), King of Spain, the son of the old age of Philip IV., was born in 1661. He was from infancy weak, deformed, and diseased, but his birth was received with acclamation by the Spaniards, who dreaded the settlement of the succession question. For years he was not allowed to walk, and his education, because of his weakness, was neglected. But it quickly became apparent that the king would never rule, and the whole of his reign was taken up with struggles between the Austrian and French parties at court. Each of these scored a triumph by arranging a marriage for the king. The French party married him to a French princess, and on her death he was married to an Austrian princess. It was obvious throughout the reign that on the death of C

French party continuinto the cars of the king one fact that only the power of France could save the Spanish empire from dismemberment, whilst C. himself could barely be persuaded to assimilate this fact owing to his extreme pride in the house of Hapsburg. Finally, on his deathbed, he was practically forced to sign a will leaving the Spanish dominions to Philip of Anjou, grandson of Louis XIV.

of succession would be

Charles III. (1759-98), King of Spain, the eldest son of Philip V. of Spain by his marriage to Elizabeth Farnese of Parma, was born in 1716. He was Duke of Parma by right of his mother, and spent his early youth in Italy. In 1734 he became king of the Two Sicilies, and these he mastered by sheer force of arms although he was not a great soldier, nor had he any special liking for arms. He early showed great hostility towards Great Britain, a fact which influenced his foreign policy at a later date, and which was probably due to the fact that at the beginning of the war of the Austrian Succession he had been forced to remain neutral under threat of hombardment by the English fleat. On the death of Ferdinand VI. of Spain he succeeded to the throne. His foreign policy was not noted for He signed the its enlightenment. family compact with France, and took part in the later phases of the Seven Years' War against England somewhat disastrously. He again joined the French in 1779 in their attacks when England which the attacks upon England during the American War of Independence. But his internal policy is a great contrast III. during the his foreign policy. Whilst king of king's reign.

the Two Sicilies he had shown his desire to act as an onlightened and benevolent despot, now he proceeded to carry out that policy still turther. He forced the Spaniards to adopt sanitary reforms. He recognised that the power of the Church had become too great, and he curbed it. He destroyed the Society of Jesus in Spain, and reduced the number of monastic buildings. In spite of this somewhat drastic policy he always remained a true son of the Church. Roads and canals were constructed, and altogether the period may be regarded as one of great prosperity for Spain. C. died just on the eve of the French Revolution.

Charles IV. (1788-1808), King of Spain, the second son of Charles III., was born in 1748. He was noted during his youth for his extreme strength, being a man of fine physical build. He succeeded his father in 1788, but devoted his time to the chase, leaving

ent of the country to be by the queen and her He was terrified by the excesses of the French Revolution, and attempted by a policy of extreme reaction to prevent the growth of a 'reforming' party in Spain. He was

reaction to prevent the growth of a 'reforming' party in Spain. He was a man of great creduity, and it is most probable that he never understood the relations of Godoy and his queen. In fact he always had great faith in his minister, and even went so far in 1803 as to abdicate to save him. He took refugo in France, where he abdicated in favour of Napoleon; he was a strong believer in the theory of divine right, and probably saw nothing wrong in his action in betraying his neople. He died at Rome in 1819. Charles VII., King of Sweden dur-

Charles VII., King of Sweden during the middle of the 12th century. Helped to organise the Christiau Church in that country and created the archbishoppic of Upsala, 1164.

the archbishopric of Upsala, 1164.
Charles VIII. (d. 1170), elected king of Sweden in 1449. His name was originally Karl Knutssen Bends. He was forced to retire before Christopher of Bayaria in 1441, and after the death of the latter prince was restored, but had again on two occasions to seek safety in flight. After his death the three kingdoms of Scandinavia were again united.

Charles IX. (1600-11), King of Sweden, was born in 1550. He was the youngest son of Gustavus Vasa, and is known principally by his stern Calvinism and his strucyles in order to obtain the recognition of Sweden as a Protestant nation. In 1568 he was the leader of the rebellion against Eric III., and he was involved in struggles with John III. during the greater part of that king's reign. When Sigismund, a

1592, C. came forward as the cham-pion of Protestantism. He was ap-pointed regent in 1595, and became king in 1600, when Sigismund was deposed. He did not however, assume the title until 1604, and was not actually crowned until 1607. His foreign policy, which is the most important aspect of his reign, involved His him in wars with Russia and Denmark, which were not successful. His importance is due to the fact that he prepared the way for his great son, Gustavus Adolphus, by his fervent

Protestant policy. Charles X. (1654-60), King of Sweden, nephew of Gustavus Adolphus, was born in 1622. A great warrior was born in 1022. A great warrior king, he took part in the later cam-paign of the Thirty Years' War, but was for a short time forced to remain inactive by the Treaty of Westphalia (1648). He was the recognised heir to the Swedish throne, to which he succeeded on the abdication of Queen Christina. In 1655 he determined upon war with Poland, and called the Riksdag to grant him supplies. He gathered together a great army and navy and attacked the Poles. Warsaw was easily won, and after a long siege Cracow fell also, and Poland appeared to be conquered, but the Poles were stirred to the depth of their national feeling by these events, and forced the Swedes to retire from the siege of Czenstochow, which had held out for over ten weeks. This success roused the feelings of the Poles to a him high in rank amongst the kings very high degree, and the Polish army became again active. C., who desired the conquest of Brandenburg, was by his unfortunate position forced to buy the support of the elector at the price of Prussian independence, and in the following year the Danes declared war against him. This helped rather than hindered him since he was able to give he was the residence of the price of the pri able to give up the Polish campaign on the same justification and concenfrom the S., but I

feats were the ere and Great Belis the ice. The er movement was to who immediately

Cession of large tracts of territory, large with some ideas. He was a hard Co, however, again without warning worker, and also showed ar more attacked the Danes in the midst of humanity than was customary at that these negotiations, and it was only time in one of such high rank. The with considerable difference ould be persuaded to tions with them. In

was meditating an attack upon Nor- mark. He succeeded in defeating the way, and had crossed to Sweden to Danes and wringing from the Danish persuade the Riksdag to grant him king a promise to abstain from fur-

Catholic, and already king of Poland, further supplies, he died, worn out succeeded to the Swedish throne in probably with the strenuous life he had led.

(1659-97), Charles XI. Sweden, succeeded to the throne at the age of four, being the only son of Charles X. His education, both general and particular, was shame-fully neglected by the regents, and C. was practically illiterate when he was called upon to rule the state and to make the final struggle against Denmark. The whole court was corrupt and degraded, yet C. showed great courage and skill in tackling the difficulties of the situation. He commanded his armies in person, and spent much time and thought in preparing for the national struggle. He defeated the Danes at Fylleboro in 1672, and in the same year he defeated Christian V. of Denmark in the great battle at Lund. The battle was hardly contested, and although the losses of the Swedes were great, still they gained the victory and practi-cally annihilated the forces of Denmark. In 1678 he again defeated the Danes at the battle of Malmo, and in the following year was forced to consent to a peace dictated by Louis XIV. The rest of his reign was devoted to the establishment of Sweden upon a sound basis, and to the rectification of her financial position. Practically every side of the administration was overhauled, financial matters were

of Sweden. Charles XII. (1697-1718), King of Sweden, the only surviving son of Charles XI., was born in 1682. He was given an extraordinarily careful At an early age he showed considerable natural ability. He was a good rider, a good marksman, and in mathematics and languages he exceed the considerable that the same and the same and the same as the considerable trained. celled. He was also carefully trained trate avainst Denmark. He attacked in matters of administration, and at nterested in all the

He succeeded on. .. and was given the it once. He was at the beginning of there were indica-

for peace (1658) ded to rule accordession of large tracts of territory, ing to his own ideas. He was a hard

his nearest enemy first-Den-

ther hostilities. against the Russians who were besieging Narva, and after a week of forced marches succeeded in defeating the besieging force with but small loss to himself. He now turned to pursue the foe whom he regarded with the bitterness, greatest bitterness, Augustus of Saxony, King of Poland. He captured Warsaw and marched against Cracow, defeating the Poles and Saxons at Klissow. He ravaged the territory he passed through, spoiled the towns, and harried the inhabitants. In 1703 C. won the battle of Pultusk, and later another battle at Pienitz. He deposed the Saxon Augustus, and set up a candidate of his own for the throne of Poland, a candidate who was crowned in 1705. He came into Western Europe just at the crisis of the war of the Spanish Succession, but he had no designs on Western Europe—he desired only the ruin of his natural enemies. In Sept. 1707 he forced Augustus to sign a treaty by which he resigned his claims to the Polish crown, and his hostility to Sweden. He now marched against Russia, defeated them at Holorsczyu, and as the Russians fell backfollowed slowly towards Moscow. Realising that he could not reach Moscow, he now marched southward to join the hetman of the Cossacks, Mazeppa. Peter had already destroyed Mazeppa's conspiracy, and when the hetman joined C., it was as a fugitive. The winter of 1708 was the most severe Europe had known for 100 years, the sufferings of the Swedes were unimaginable; food failed them, and later the weather became so severe that they could not possibly keep themselves warm. The king was at his best at this time, cheering and encouraging his men. Finally, when the frost broke and the Russians were attacked, the Swedes were practically annihilated, and C. with the remnant of his army took refuge in Turkey. He had great influence in Turkey, where he remained from 1709-14, and caused the Turks to declare war on Russia no less than three times. He finally, however, became so troublesome that after a desperate fight he was taken prisoner at Bender, and finally quitted Turkish territory and arrived in Sweden in Nov. 1714. C. immediately raised an army which was strong enough to an army which was strong changed by his enemies, and in 1717 he opened hostilities with Norway. In the following year, whilst again leading an expedition to Norway, he was shot in the trenches whilst besieging Frederikshald.

He then marched self as an admiral in the Russo-ians who were be Swedish War, and later became regent of the country. He practically dropped out of state affairs after 1796 until 1809, when he was elected king in place of Gustavus IV., who was deposed. In 1810 Bernadotte (Charles XIV., q.v.) was elected crown prince and practically took all power out of the hands of the king, who had by this time become dewho had by this time become to crepit. In 1814 he became the first king of a united Norway and Sweden, and in 1818 he died, having for ten years been king only in name. Charles XIV. (1818-14), King of

Norway and Sweden: known also as Jean Baptiste Jules Bernadotte: the son of a lawyer at Pau. He was born in 1763 and entered the French service in 1780, and showed considerable ability in his profession. On the outbreak of the Revolution he received speedy promotion. He was present at the battle of Fleurus and took part in the campaigns in Germany. In 1797 he took reinforcements to Napoleon in Italy, and in the following year he became ambassador at Vienna. In the same year by his marriage to Désirée Clary he became the brother-in-law of Joseph Bonaparte. He did not take an active part in the coup d'état by which Napoleon became First Consul, but he was given in 1801 the command of the army in La Vendée. In 1804, when the empire was declared, he was made a marshal of France and was also appointed to the governorship of the province of Hanover. He took part in the campaigns of Ulm and Austerlitz, and was later made governor of the Hanse towns. After the battle of Wagram he returned to Paris, having incurred the displeasure of Napoleon by issuing an order which congratulated the Saxons on the courage which they had displayed at Wagram. In 1810 he was appointed to command in the Netherlands. In 1810 he was offered the crown of Sweden, both because he had considerable popularity there and also because the Swedes desired a strong military ruler, and in the same year was elected crown prince. In November he went over to Sweden, where he was adopted by the king. Charles XIII., under the name of Charles John. He almost immedi-Charles John. He almost immediately became exceedingly popular, and never really lost his popularity, although some of his views were displeasing to the majority of his subjects. He took part in the later German campaigns against Napoleon, and in 1818 he succeeded his adopted father Charles XIII, with the title of Charles XIII. (1809-18), King of father Charles XIII. with the title of Sweden and Norway, the second son (C. XIV. His policy from the begin-of King Frederick Adolphus, was been along the being about a union born in 1748. He distinguished him-

peace, and he proven minself an enlightened monarch.
Charles XV. (1859-72), King of Sweden and Norway, was born in 1826. He was the eldest son of Oscar I., and became regent in 1857. He became an exceedingly popular and colightened king, and during his reign a number of great reforms were made. The laws of the church and the criminal laws underwent considerable reform at this time, and the king also gave his support to the laws which reformed the constitution. He was himself a man of great gifts and had considerable ability. He was a strong supporter of the policy of a strong Scandinavia.

Charles I. (1265-85), King of Naples and Sicily, Count of Anjou, and seventh son of Louis VIII. of France. He was born in 1226 before the accession of his brother, Louis IX., and was later, on the decease of another brother, given the counties of Anjou and Maine. In 1246 he married the heiress of the county of Provence, and after some difficulty he succeeded in establishing his authority over his new possessions. He accompanied St. Louis on his first crusade, and was with him when he was defeated and captured, he himself sharing the same fate. Ransomed and released before the king, he returned to France to intrigue with the Countess of Flanders against the emperor. In 1257 he captured the important town of Marseilles, and began to make his in-fluence felt in Piedmont. His great His great opportunity came when the pope desired to break down the power of the Hohenstaufen in Italy. He was offered the crown of Naples and Sicily, for which he was to pay a yearly tribute to the pope, and which also he would have to win from their allegiance to Manfred, the natural son of Frederick II. He finally accepted the papaloffer, and despatched an expedition to and despatched an expedition to Italy in 1264. In the following year he was crowned king of the Two Sicilies, and a year later he defeated and killed Manfred at Benevento. In 1268 a battle was fought with Conradin, the last descendant of Conradin, the last descendant of Frederick II., and resulted in the defeat of the supporters of the Hohenstaufen and the capture and execution of Conradin. His power was now at its greatest. He was recognised as one of the most powerful monarchs in

and ill-fated crusade of Louis IX., line of the house of Hohenzollern-after whose death he returned to Sigmaringen and the heir-apparent Italy. In 1282 occurred the massacre is the nephew of the king, Prince and expulsion known as the Sicilian Ferdinand, since Charles' daughter

mately successful. His reign on the Vespers, inspired by the cruelty and whole was one of development and ill-rule of the French. C. determined peace, and he proved himself an to avenge this disaster, but after two defeats, finally had to give up all hope of regaining Sicily. He was preparing another attempt from Naples when

he died. Charles VII. (1697-1745), Emperor of Germany, Elector of Bavaria, the son of the elector of Bavaria. Since Bavaria took the side of France in the War of the Spanish Succession, C.'s early youth was spent in Vienna, where he was taken by the Austrians. The electorate, however, was restored at the end of the war, and C. took part in the campaign of Austria against the Turks. He succeeded to the electorate in 1726, and his reign was taken up (in spite of having recognised the Pragmatic Sanction) in plotting to obtain the Imperial Crown on the death of Charles VI., uncle of his wife Maria Amelia. The Bavarian house had some claim to the Imperial throne. In 1740 he claimed the Imperial crown and was put forward as the puppet of the anti-Austrian faction. He was crowned in 1742, his sovereignty was merely but His hereditary dominions nominal. were overrun, he was twice restored to his capital, but he died, worn out by his many illnesses and troubles.

Charles I. of Roumania (b. 1839), the second son of Prince Karl of Hohenzollern-Sigmatingen. He was educated at Dresden and Bonn, and served with the Prussian forces in the Danish War, 1864. He learnt the art of war under Von Moltke; was in 1866 elected Prince of Roumania, which at that time was only a principality. He found himself at first dis-trusted by the Powers of the East (Turkey and Russia especially), but the wisdom and enlightenment of his general policy soon allayed any fears which his election might caused. His firm handling of political matters in Roumania itself led to the establishment of sounder conditions in that country, and to the develop-ment of the country itself. Railways were developed and sound commer-cial relations established with other countries. He joined the Russians before Plevna in 1877, and took an active part in the Russo-Turkish War. The independence of Roumania was declared in 1877 and recognised in 1880. In 1881 he was crowned king. In 1869 he had married the princess [11, th 11, th 12] from 1874 he was crowned king. In 1869 he had married the princess [11, th 11, th 12] from 1874 he was a faing heirs to (12, th 12, th 13, th 12, th 1

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and only child died in 1874. In the an alliance. The revolutionary wars Balkan War which broke out in 1912 found him fighting in the ranks of the

Sardinia restored his court to Turin. C. A., who was in the direct line of succession was regarded with horror by the Royalists on account of his supposed revolutionary ideas. He was, however, recognised as heir-apparent. In 1821 a revolution forced the king (Charles Felix) to abdicate, and C. A. became regent. He granted a constitution which was repudiated by the king, and he himself became distrusted by both Royalists and Liberals. He was still, however, regarded as the heir-apparent, although Metternich strongly favoured the selection of an Austrian prince. 1823 he fought in Spain, and in 1831 he succeeded Charles Felix. attempted to reform the finances and administration of Piedmont, but was only partially successful. In 1848 he granted a Liberal constitution, and in the same year declared war on Austria, and went to the help of the Milanese. At first successful, he was findly the transfer of the same year.

haveger, continued the struggle, but the battle in favour of his son and retired to a monastery, where a few months later he died.

Augustus (1757 - 1828), Charles Grand Duke of Saxe-Weimar. father died before he was one year of age, and the duchy was administered by his mother. The prince received a very careful education, and spent the early part of his youth in travelling. In 1775 he was declared of age, and began actually to rule. His reign is noted for the enlightenment of the policy which he adopted. He intro-duced the poet Goethe to the court and to his councils, and although he was a hard man, this

with the

His people were not to be adopted. governed despotically nor yet benevolently, but were to be so educated that they would be capable of governing themselves. This policy speedily made the university of Jena the most important in Europe. During the early part of his reign he was driven by the Austrian policy into the arms of Prussia, with whom he concluded

active part, but Prussian army and he fought against the beginning Mapoleon until the Jena campaign made some forced him to join the confederation demands for cession of territory,
Charles Albert (1798-1849), King of
Sardinia. The son of Prince Charles of
Savoy-Cavignano. The early death in the congress of Vienna and pleaded
of his father led to the neglect of his
education. During the early years of
french, but after 1814 the king of
Sardinia restored his court to Turing ended notice of the people. His home policy made
his life Piedmont was overrun by the
Sardinia restored him to join the congression in 1812 he was in
arms against Napoleon, and continued
so until the end. In 1815 he took part
hard for the recognition of the rights
countries of Europe, but his enlightened policy drew down on him the censures of the reactionary ministers of other countries, especially of Met ternich. He granted a liberal constitution to his people, and was one of the few princes who were not driven by the excesses of the Revolution to a policy of reaction.

Charles Edward. Sec STUART.

CHARLES EDWARD. Charles Eugene (1728-93), Duke of Würtemberg, Succeeded in 1737, but did not come of age until 1744. He had good ability, but he wasted his talents in extravagant and vicious living. He fought against Prussia during the Seven Years' War, a course that was decidedly unpopular in the duchy. His methods of financial and political administration roused much resentment amongst his people, and athough he was forced to promise reforms, he continued his former practices. His period of rule was continually disturbed by internal troubles.

finally beaten, and on his entrance into Milan was received badly. He, Charles Louis, Archduke of Austria and Duke of Teschen, the third son of the Emperor Leopold IL; became one of the most distinguished generals of the Napoleonic period. He began his career as a soldier during the revolutionary wars, being at that time stationed in the Netherlands. He commanded a brigade at Jemappes, and during the subsequent campaigns proved himself a general of such ability that in 1796, after serving for a year with the army of the Rhine, he was given the chief command of that army. His campaign of 1796 was one of the most brilliant of the whole of the war. He defeated Jourdan twice during the year, and finally drove the French across the Rhine. He had shown himself a past-master in the art of strategy, with an ability to refrain from too closely following the general theories of strategy, although at a later date he advocated . principles of strategy which must never be departed from. Although in the following year he found Napoleon more than a match for him, he again showed his consummate skill as a general in the manner in which he conducted the retreat of his armies. The campaign of 1799 found him

Charles 520

armies of the Rhine and again opposed to his old enemy Jourdan. He defeated the French general twice during the year, and even tried con-clusions successfully with Massena, and once more he forced the French to retire over the Rhine. After this

paign which preceded Hohenlinden, and after that battle concluded an armistice with the French. He had by this time become exceedingly popular with his fellow-countrymen, who regarded him as a national hero. 1805 he took up the command of the armies in Italy, but events in Germany soon drew him from Italy, where he had fought the battle of Caldiero and defeated Massena. The peace which followed the disasters of Ulm and Austerlitz was used by the archduke to reorganise the Austrian forces. In 1809 he again became commander in chief of the Austrian army, which he had not yet been able completely to reform. The struggles of the Austrians against Napoleon were not altogether unsuccessful, and the victory of Aspern had certainly a good moral result on the rest of Europe. Aspern was followed by Wagram, where the Austrians were totally defeated, although not before they had made a most desperate struggle. This was the last battle in which the archduke took part. He lived the rest of his life in retirement, becoming Duke of Saxe-Teschen in 1822. He died in 1847.

Charles 'Martel' ('the Hammer') (c. 690-741 A.D.), natural son of Pepin d'Héristal, mayor of the palace under the later Merovingian kings, grand-father of Charlemagne. In 714 the Austrasian Franks chose him as their duke: by force of arms he united the kingdoms of Neustria and Austrasia, of Moslem conquest i

and famous battle and Poitiers, 732. For defeat of the Saracens he was given his surname, and looked upon as the saviour of Christendom (see Gibbon). C. tried to convert Saxony and Frisia to Christianity and helped St. Bonithe Saracens out of Burgundy and Languedoc, 737. On his death he left the kingdom to his sons, Carloman and Pepin le Bref. See Cauer, Dissertatio de Karolo Martello, 1848; after the battle. The death of C. ex-

again in command of the Austrian Breysig, Jahrbücher d. frant: Reichs, 714-41; die Zeit Karl Martells, 1869; Ulysse Chevalier, Bio-bibliographie, 1904; Baron de Nilinse, Charles Martel, Histoire des Maires du Palais, 1851.

Charles of Blois (c. 1319-64), Duke of Brittany, sometimes known as Charles of Chatillon. Married the daughter and heiress of Guy of Britdaughter an herres of Guy of Britany. On the death of the latter, the succession of his daughter, Jeanne, wife of C. of B., was disputed. Charles, aided by his uncle Philip VI. of France, was able at first to defeat John of Montfort l'Amaung, who was supported by Edward III. of England. But his success was only transitory. and in 1347 he himself was wounded and taken prisoner. He was only released in 1356, but continued the war, and finally perished at the

war, and manly perished at the battle of Auray. He was noted for the consistent piety of his life, and was canonised by the Roman Church. Charles of Orleans, see ORLEANS, CHARLES, DUKE OF.
Charles the Bold (1433-77), Duke of Burgundy, son of Philip the Good. Before the death of his father he bore the title of Court of Cheroleis and the title of Count of Charolais, and during his youth he quickly established a reputation for himself as a general and warrior. In 1465 he became the practical ruler of the duchy, and adopted at once his policy of opposition to the aims of Louis XI. He succeeded after hard fighting in wresting from Louis XI. by the Treaty of Confians some of the privileges which Louis had gained, and just previous to the death of his father was engaged in subduing a revolt of the townsfolk of Liège, a revolt which was renewed when he succeeded to

was convinced of Louis's double deal-Franks, the titular kings (among them Chilperic II. and Clotaire IV.) fulfile, and in the following year Louis being merely his puppets. He fought seized some towns on the Somme, against Saxons, Alemanni, and Bayarians, and rolled back the tide waste as far as Rouen. From 1470 C. was engaged upon wider

than simply checking the He desired the of Louis. restoration of the middle kinedom, and aspired to the kingship himself. He had added to his territory and power, but in so doing he had raised up many enemies. He had offended the emperor, he was at enmity with the Lorrainers and Swiss, and finally,

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tinguished the male line of the dukes, with the Methodist body. of Burgundy, and with it the grandeur and importance of the duchy. had left an only daughter, Mary, who succeeded to all the dominions of her father out of France. She married the Archduke Maximilian, to whom her father had proposed her, and through whom her Flemish possessions descended to the Spanish branch of the house of Austria.

Charles, Mrs. Elizabeth (1828-96), born at Tavistock. Devonshire, the daughter of John Rundle. She was the author of many books of a semireligious character, the chief of which, The Chronicles of the Schönberg-Cotta Family, 1864, is about Martin Luther, and has been translated into most of the European languages, into Arabic and many Indian dialects. Others of

New England. Among her friends were Dean Stanley, Charles Kingsley,

were Dean Stanley, Charles Kingsley, Jowett, and Pusey.
Charles, Rev. R. H., M.A., D.Litt., D.D., F.B.A. (b. 1855), theological scholar and writer, born in co. Tyrone, Ireland, and educated at Belfast and Dublin. Ordained in 1883, he has been successively curate of St. Mark's, Whitechapel, 1883-85; St. Mark's, Kennington, 1886-89; Hibbert lecturer, Oxford, 1898: Jowett lecturer, 1898-99; and professor of Biblical Greek at Trinity College. Dublin, 1898-1906. Among his

The Ascen Book of Version of The Greek of the Twe

and various articles in the Encyclopædia Biblica, Ency. Brit., and Hasting's Biblical Dictionary.

Charles, Thomas (1755-1814), Welsh preacher and author. He early came under the influence of Rees Hugh, a disciple of Griffith Jones, and joined a Methodist society. He met many noted evangelical leaders at Oxford from 1775-84; in the latter year became curate of a charge in Somerset. His opinions made it difficult for him to retain a post in the Established Church, and after 1784 he threw in his lot altogether ing the battle of that name.

He did much valuable work in the introduction of Sunday schools, and the printing and distribution of religious books in Welsh.

Charleston: 1. Cap, city and seaport of C. co., S. Carolina, U.S.A., standing on a low tongue of land between the Rs. Ashley and Cooper, 7 m. from the Atlantic. The two rivers unite just below the city and form a spacious harbour, about 15 sq. m. in area. Across the entrance is a sandbar with only about 18 ft. of water, but having a deeper channel near Sullivan's Is. By recent improvements, vessels of 24 ft. draught can safely enter. The city is regularly and handsomely built, retaining many of the features of old Southern architecture, and having a profusion of trees Standing as it does in a gardens. gardens. Standing as it does in a rich cotton and rice district, C. has a large trade, and is the chief commercial city of S. Carolina. It is the terminus of the railway lines, and steamships run regularly to and from the chief ports of the U.S.A., the Antilles, S. America, and Europe. The chief exports are cotton, rice, phospheta payed stores lumber and phosphate, naval stores, lumber, and grain. There are machine-shops, ship-yards, dry-docks, and manufactures of cotton, flour, carriages, baggage, textiles, and fertilisers, the last, owing to the large deposits of limephosphates found on the Ashley R., being the main industry. C. is the seat of a Catholic bishop. The city was founded by the British under William Sayle about 1670. The Civil War began in 1861 with the capture by the S. Carolinians of Fort Sumter, publications are: The Book of Enoch. translated from the Ethiopic and edited 1893: Ethiopic Text of the Book of Jubilees, 1894; Book of the Secrets of Enoch, 1895; Apocalypse of Baruch, translated from the Syriac, 1896; The The Ascen

minous coal, oil works, iron mines. The manufactures inxes, glass and chemical fire-

xes, giass and chemical life-lumber, furniture, and goods. Pop. (1906) 13,715. Limitatown: 1. A fishing village and seaport, 2 m. S.E. of St. Austell, Cornwall, England; has boat-build-ing yards and exports china-clay. Pop. 2800. 2. A town in N.W. of Natal. 5000 ft. above sealeral class Pop. 2800. 2. A town in N.W. of Natal, 5000 ft. above sea-level, close to Majuba Hill and Laing's Nek, and until 1895 the terminus of the railway from Durban. 3. Chief town of Nevis Is., Leeward Is., W. Indies. Pop. 1400. 4. Originally a city in the state of Massachusetts. It is now, however, a part of Boston, and contains the Bunker Hill monument commemorat(1816) owing to the political changes. He then studied art under Gros, and was particularly successful in military subjects ('Grenadier de Waterloo, 1817) and sketches of children. See La Combe's Charlet, sa l'ie et ses Lettres, 1858.

Charleville: 1. A market tn., 34 m. N. of Cork. co. Cork, Ireland; pop. 1970. 2. Tn. in Queensland, the terminus of the Western Railway, 430 m. N.W. of Brisbane: pop. 1500. 3. A tn. of Ardennes, France, on R. Meuse, opposite Mezieres. Has manufactures of metal goods, fire arms, and nails, and a large trade. The public library is very fine. Pop. 17,928.
Charlevoix, Pierre François Xavier

Pop. 5246.

foun

farmers, and is difficult to destroy.

Charlotte: 1. The county-seat of Charlottenerg, a tn. in Sweden, Mecklenburg co., N. Carolina, U.S.A. co. Vermland, 21 m. N.N.W. of on Sugar Creek, in the S.W. of the Arviku, and 3 m. from the Norwegian state. 175 m. S.W. of Raleigh. The frontier. The centre of the iron-terminus of several railways, and has manufactures of carriages, cotton mills, machinery, furniture, and mills, machinery, furniture, and cotton-seed oil. A branch mint was Rivanna, 90 m. N.W. of Richmond. established here in 1837, and the The seat of the Virginia University, Biddle University (for coloured founded by Thomas Jefferson in students) in 1867. Page 1101 22 4014 Biddle University (for coloured students) in 1967. Day (1910) 24 612 2. County to U.S.A., 20 m has carriage 1 malt works. Lup.

Charlotte-Amalie, the capital of the West Indian Is, of St. Thomas, on an excellent harbour on the S. coast. The chief port of the island and the seat of the Danish govern-ment in the W. Indies. It still retains an important trading position.

Charles's Wain, see URSA MAJOR. Prince of Wales (afterwards George Charlet, Nicolas Toussaint (1792- IV.), and Caroline of Brunswick. Her 1845), a French designer and painter, parents separated when she was a born in Paris. He served in the few months old, and while she lived National Guard in 1814, but lost his she was a source of contention beemployment as clerk in the 'mairie' tween them. Both father and mother desired to have the custody of her. but while she was growing up George III. decided to entrust her to neither. and she was placed in charge of governesses. She became engaged in Dec. 1813 to William, Hereditary Prince of Orange; but discovering Prince of Orange; but discovering that to marry him would mean residence in Holland, she broke off the match. On May 2, 1816, she married Prince Leopold of Saxe-Coburg, and died in childbirth on Nov. 5 of the following rear. There are biographics by Lady Hose Weigall, 1874 and Peerre 1911

1874, and Pearce, 1911.
Charlotteneur, a to, of Brandenburn Physics Lieuway, on R. Spree. Charlevoix, Pierre François Xavier 100 - W. of 10 - 1.0, of which it forms de (1682-1761), a French Jesuit mis- a suburb. It has grown up around the de (1682-1761), a French Jesuit mis- a suburb. It has grown up around the sionary and traveller, born in St. palace which Frederick I. built for Quentin; joined the Jesuits. 1698; sophia Charlotte in 1696, and is well taught in their college at Quebec, built and laid out. The palace, with 1705-9: travelled up the Great Lakes its park, in which is the mausoleum and down the Mississippi to New containing monuments to Queen Orleans, 1720-22. Wrote a journal. Louisa, the Emperor Frederick Wilseveral histories, and Historic de la liam III., the Emperor William I., Nouvelle France, 1744.

Charlieu (anct. Carilocus), a tn. of chief attraction of the town, but Loire, France, near the border of the; there are also a royal institute of department. 10 m. N.E. of Roanne glass-painting, schools of artillery It has manufactures of textiles and engineering, an institute of technology. Tramways run to Berlin. nology. Tramways run to Berlin. Charlock, a species of Cruciferae, is with which C. is connected by a road the Sinapis (or Brassica) arrensis leading through the Tiergarten. The chief manufactures are iron ware, usus machine are non ware, machine proceding glass, paper, leather, chemicals, beer, electric appliances, pottery, and stone ware, but the plant is very troublesome to and there are iron foundries and farmers, and is difficult to destroy.

1820, which has a fine natural history museum, an observatory, and library. Agricultural implements and cigars are manufactured, and there are iron works and wool-mills. Pop. 12,080.

Charlottetown, the capital of Prince Edward Is., Canada. It is situated on the S. side of the island, in Queen's co., on the Hillsborough estuary, and possesses a large and safe harbour. Its chief buildings are the Prince of Pop. \$500. Wales College, the Roman Catholic Charlotte Augusta, Princess (1796- College of St. Dunetan's, and a normal 1817), was the daughter of George, school. Its manufactures include

woollen goods, lumber, furniture, Crete, and Persia, have only survived

woolen goods, lumber, lurinture, malt liquors, and canned goods. It has also shipbuilding and foundry works. Pop. (1901) 12,080.

Charm (through Fr. from Lat. carmen, a song), a form of words, generally a verse, which when said or sung is supposed to have power to a vertevil or bring good luck. When a vertevil or bring good luck. avert evil or bring good luck. When worn in written form about the person it is called an amulet. The meaning of the term has been extended figuratively to pleasing qualities of appearance or manner.

INCANTATION and AMULET.
Charmey, in canton of Fribourg,
Switzerland, 15 m. S. of town of Fri-A favourite tourist resort. and the centre of the Gruvere cheese

industry.

Charmouth, a parish, vil., and watering-place in W. Dorsetshire, 6 m. S.E. of Axminster. Pop. (1911) 575.

Charnel-house, a place for the deposit of bones thrown up in digging. Sometimes a separate building, but more often a part of the crypt.

Charnock, Job (d. 1693), English founder of Calcutta. Arrived in India about 1655, and entered the East India Company. He refused to move when besieged by the Mogul's vicercy at the village of Sutanati, and finally obtained the grant of the site upon which Calcutta now stands.

Charnwood Forest, a tract in the N.W. of Leicestershire, England. Though a great part of it is barren, the scenery is pretty and it has considerable geological interest. The The lowest elevation is 600 ft., while Bardon Hill, the highest point, is 912 ft. It contains coal mines and granite quarries, and the Whittle Hill hones come from there. It was enclosed by Act of Parliament in 1812.

Charolais, an old dist. of France, which was situated in the S. of Burgundy, and now forms a part of Saône-et-Loire. The counts of Charolais took their title from it. The district now is famous for its

cattle. Charolles, a tn. of Saône-et-Loire, France, 27 m. S.W. of Le Crayot. On a neighbouring hill is the ruined castle of the counts of Charolais. Pop. 3343.

Charon, i son of Ereb

the souls of of the lower world. Each shade paid him one obolus, which was placed in the mouth of the dead body before burial.

Charon of Lampsacus, Greek historian, probably of the early 5th century B.C., and certainly before Herodotus. He is known to have been alive in 464 B.C. His works, which include histories of Lampsacus,

in fragments, which have been edited by Creuzer (Heidelberg, 1806) and by C. and T. Muller (Paris, 1841). He is mentioned by Tertullian and Suidas.

Charondas, a celebrated Greek lawmaker of Catana, Sicily. His date is not known, but the tyrant Anaxilaus of Rhegium. 476 B.C., abolished the laws which were in force. His laws were adopted by the Chalcidian colonies in Italy and Sicily, but according to Aristotle their chief originality lay in the precise rules against perjury, fines on judges who neglected their duties, etc. The story of his suicide because he broke one of his own laws is also attributed to Diocles and Zaleucus.

Charonne, a former vil. of Seine, France, now forming one of the outlying arrondissements of Paris which have been added to the city since 1860.

Charpentier, Jean de (1786-1855), geologist, born at Freiberg in Saxony. He was appointed chief engineer of the salt mines at Bex (Vaud, Switzerthe sait mines at Dix (vaud, Silvand) in 1813, but his fame as a geologist rests on his book Essai sur les Glaciers. et sur le Terrain Erra-Glaciers, et sur le Terrain Erra-tique du Bassin du Rhône (1841), in which he extended and proved the theory, which had previously been evolved by Venetz, that the blocks on the slopes of the Alps and Jura, although of quite different sorts and periods of rocks, had been brought there by glaciers and left when the glaciers themselves disappeared. His theory of the 'dilatation' of glaciers has since been disproved by J. D. Forbes in his Travels through the Alps of Savoy, 1842. Charpentier, Johann Friedrich Wil-

helm Toussaint von (1738-1805), a German mining engineer, born in Dresden. He studied mathematics and jurisprudence at the university of Leipzig, and subsequently was appointed mathematical professor at the mining school of Freiberg. Here his interest was aroused in mining, which he forthwith made the object of his special study, and became one of the leading metallurgists of the

18th century.

Charpentier, Toussaint von (1779-1847), German mining engineer. He law at Leipzig, but entered sian service in 1802 as mining

1835 he became In director of the mines in Silesia. He made a great study of entomology, and the results of his researches are embodied in Hora Entomologica, 1825; Die austanatschen Schen linge, 1830; and Die Europäischen

Charr, or Char, is the name of several species of Salmo, the salmon and trout genus which is typical of the family Salmonidæ; they differ from their allies in having teeth on the head only of the vomer. The deeper parts of fresh-water lakes is their favourite habitation; S. alpiaus, the N. charr, is common to England and Switzerland; S. Willughbii is a native of Lake Windermere; and S. fontinalis occurs in N. America.

Charrière. Isabelle Agnes Thuyll, Madame de Saint Hyacinthe (1740-1805), born at Utrecht, Holland; married her brother's tutor Colombier, settled at near Her Lettres Neuchâte-Lausanne. loises, 1784, made her famous. Her friendship and liaison with Benjamin Constant is her chief claim See P. Godet. to remembrance.

Mmc. de Charrière et ses amis, 1906. Charron, Pierre (1541-1603), French philosopher and theologian, born in Paris, the son of a bookseller. He studied law, but his practice as an advocate was unsuccessful and he entered the church, becoming a well-known preacher and obtaining the post of preacher in ordinary to Marguerite, wife of Henry IV. His friendship with Montaigne is famous. In 1594 he published Les Trois Vérités, in defence of Catholicism. His great ethical treatise, De La Sagesse, 1601, showed a remarkable change. It is entirely sceptical and rationalist in principle, and was violently attacked by the Jesuits, and C. was denounced as an atheist. His sudden death from apoplexy was regarded by the orthodox as a judgment for his impiety. See Lecky, Rationalism in Europe.

dox as a judgment for his impiety. See Lecky, Rationalism in Europe. Charruas, a tribe of S. American Indians, noted for their warlike propensities. At one time they inhabited Uruguay and part of S. Brazil, and Gauchos, who now occupy that part, have a strain of Charrua blood in them. They were well-made, dark-skinned people, and used horses in their wars with the Spaniards, their weapons being the bolas, or weighted lasso, and bows and arrows. Juan Diaz de Solis lost his life at their

hands, 1516.

Charsadda, a tn. in Peshawar, Punjab, India, 14 m. N.W. of Peshawar. It is supposed to be the same as Pushkalavati, which was in existence at the time of Alexander the Great's invasion, and the Peukelaotis mentioned by Greek historians, the adjoining village of Prang no doubt forming part of it. Some interesting earthenware jars bearing inscriptions have been found in the neighbourhood. Pop. 9119.

Chart, or Sea-Chart, a marine map, showing the coasts, islands, lighthouses, and ships, soundings, currents, etc., of a part of the sea, compiled for the use of navigators.

Cs. seem to have been made as early as the 13th century, the invention being variously ascribed to the Italians and to Prince Henry of Portugal. The first C. to recognise the roundness of the earth was produced by Mercator in 1569, and his system was improved by Edward Wright in 1594. Modern Cs. are prepared in Great Britain by the hydrographical department of the Admiralty. They are supplied gratis to the navy and sold to the merchant service through agents. Valuable Cs. of the coasts of the U.S.A. have been published since 1807 by the Coast Survey. Cs. are constructed with the greatest possible accuracy, and the use of recognised symbols admits of the inclusion of considerable detail. Prominent features on land which may serve as landmarks, shore-lines at high and low water, details of tide in harbours, the proper courses for entering ports and channels, and the buoys marking them, etc., are shown. Signal stations and lights receive detailed attention, lights being shown by a yellow circle surrounding a red dot, with abbrevia-tions describing whether the light is fixed, flashing, or revolving. Deepwater soundings are given in fathoms, and shallow-water soundings in feet. The character of the sea bottom is also indicated, and sand-banks, bars, rocks, hidden, awash, or protruding, and sunken wrecks are own. Lines of latitude and currents, clearly shown. longitude are drawn in, and several compass-roses, showing magnetic variation, appear on different parts of the C. The Mercator projection is generally used, but polyconic Cs. are issued of small areas, and the gnomic projection is used for mariners wishing to follow great-circle courses.

Charte, a charter or system of constitutional law, contained in a single document. The Grande C., or the Charter of King John, 1355, was the first such document known in France. The constitution to which the name C. was the most often given was the one in which Louis XVIII. acknowledged the rights of his subjects upon his restoration to the throne, 1814. Since that time this C. has been held as the fundamental law of constitutional monarchy, whenever that particular form of government has

existed in France.

Charter (Lat. charla: Gk. χάρτης, e usual im-

contract, or

agreement between persons. In England we no longer use the word to signify a written document, though in France it is still in use. In private affairs, its most general use is in the transference of estates, the written

documents given by the former owner as a proof of the transference being called a C. In public affairs, it is the name given to the deeds by which those in power guarantee the rights of their subjects. There may be also a C. of a bank, or some other association, whereby it may confer privileges and powers on a body of persons for some particular object. In Scotland, a C. is the written evidence of a grant of heritable property, under certain conditions enforced by the feudal law, i.e. that the person receiving shall pay at stated times a sum of money, or perform certain duties to the person conferring the property.

Chartered Companies. The common element in C. C. at all stages of their development is the possession of a special charter from the possession of a colonial charter to the development of C. C., the final if unintended or unavowed cause of which, judged by the light of later experience, is the foundation of a colonial empire. C. C. appear, firstly, as associations of individuals, emanating from early trading guilds, and enjoying a monopoly of trade in the exportation of English products to other European nations. Secondly, as

later companies was a consequence of the impulse given to foreign trade by the discovery of the New World and the opening out of trading routes to the Indies and America, and the object of their formation was to foster commercial intercourse with distant countries. The Russia Company, the Turkey Company, and the Eastland Company developed such relations with Russia, Turkey, and Persia. But the more important were the Hudson Bay Company, and a number of other C. that opened up the British North American colonies, and the famous East India Company. The significance of these companies lies in the part they played in the building up of the foundations of the British colonial empire through their acprocess of planting and settling in unoccupied regions or by conquest unoccupied regions or by conquest or cession of occupied land, as in the case of India. Thirdly, as purely jointstock companies possessing no dele-gated sovereign powers, and trading under the direct control of the British government. This phase of their development, or rather revival,

was the expression of the desire for colonial expansion and commercial prosperity universally prevalent among the European nations towards among the European nations towards the end of the 19th century. The principal English C. C. formed during this period were the Royal Niger Company, chartered in 1886 and bought out by the government in 1899 for £865,000; the Imperial British East Africa Company formed in 1889 to exploit Uganda and neighbouring districts, and which fell into financial straits in 1892, with the result that Uganda became a British protectorate some two years later; the British South Africa Company, chartered in 1889, and owing its origin to the activities of Cecil Rhodes, who secured various mining concessions from Matabele chiefs; and the British North Borneo Company, incorporated in 1881 to take over the concessions and territory acquired from the Sultan by a syndicate formed in Labuan in 1878. Some of the C. C. of the latter two phases still exist as companies, but in most cases they have been merely a step, though an important one, in the transition from exploitation to colonial expansion. and their rights and treaties have for the most part been brought out by the crown. The greater degree of success in this direction of the later companies was due to their more economic organisation, their control of a larger capital, enjoyment of better cre by the I view to

native ru monopoly in trading rights.

Charterhouse, a corruption of Chartreuse, a religious house of the Carthusian order. In several places in England the name occurs, such as C. on Mendip, C. Hinton, thus denoting where the Carthusians established The most themselves in the past. celebrated is the C., London. In 1371 Sir Walter de Manny founded a Carthusian monastery by the old city wall of London. Upon the dissolution of the monasteries in the time of Henry VIII., the property passed through many hands, until in 1611, it was bought by one Thomas Sutton, 1532-1611, a native of Snaith, Lin-colnshire. The same year of his death he founded a hospital on the site of the monastery, and in his will bequeathed moneys with which found a chapel, almshouse, and a school. The almshouses provide for school. The almshouses provide for eighty inmates, who must be over fifty years of age, and according to the founder's wish, 'gentlemen by descent and in poverty, soldiers who have carried arms over sea and land, merchants whose livelihood was destroyed by shipwreck, or other mis-fortune, or servants in the royal household.' The school ranks among one of the foremost of the public schools, and has by now far outgrown the original intentions of the founder. In 1872 it was removed to Godalming and the old buildings were sold for the accommodation of the Merchant Taylors' School. The quaint old chapel and hospital still remain on the old site.

Charteris, Archibald Hamilton (1835-1908), a Scottish clergymau and biblical writer, born at Wamphray, i He studied in Edinburgh, Tübingen, and Bonn, and in 1863 became minister of the Park Parish in Glasgow. He was appointed professor of biblical criticism at the Edinburgh University, 1868-98; royal chaplain, 1869; chaplain in ordinary to the king in Scotland, 1901. Author of

A Life of Professor James Robertson, 1863; Canonicity, 1881, etc. Charter-party (Fr. charte-partie, charte-partie, divided deed, one given to each party concerned), in maritime law a con-tract by which the owner or master of second party for the purpose of conveying goods from one port to another. It is one form of the contract of affreightment, the other being the bill of lading ' (used when the goods) shipped form only part of the in-tended cargo). A C, may be a lease of the vessel (the charterer then assuming entire charge, while the master is only his agent), but more often it merely gives the shipper permission to have his cargo chartered vessel.

ing the responsibilit carrier.' Usually the C. describes the contracting parties, the ship, and the voyage. The shipowners state that she is seaworthy, will take the cargo at a certain charge, and make the voyage as quickly as possible, de-livering the cargo within a fixed time. The freighter agrees to load and un-

> · Scrutas ex-I Bills

Chartier, Alain (c. 1392-1430), French poet and satirist, born at Bayeux, studied at the university of Paris. His first poem, written after the battle of Agincourt, was Livre des quatre dames; his Belle Dame sans Merci was translated into English by Sir Thomas Ros in 1640. He was made Thomas Ros II 1040. He was a secretary to the dauphin, afterwards Charles VII. In 1422 he wrote his teetif, describthe people or

patriotism to ommon enemy.

By his eloquence and patriotism he cheered his countrymen with the belief that the cause of France was not lost. The story of the kiss given to him by Margaret of Scotland for his poems is a fable. His satire on the court, Le Curial, was translated by Caxton, 1484. He attacked the vices of the clergy in Livre d'Expérance, 1429, and his Bréviaire des nobles was studied by the youthful members of every noble household. His influence on Clement Marot, John Lydgate, and

others was great. Chartists, the name given to a body of political reformers (largely working men), who sprang up in England about 1838. Discontent and disappointment were felt among the workers of Britain after Grey's reforms and the bill of 1832, resulting in the movement known as 'Chartism,' from the document or charter in which the agitators presented their demands publicly. In 1838 six members of the House of Commons held a

es of the and to-People's ifferings classes.

rsal suffrage (of men), (2) abolition of the property qualification for a seat in parliament, (3) annual parliaments. (4) equal representation, (5) payment of members of parliament, (6) vote by hallot. O'Connell was a noted char-The freighter agrees to load and un-load within a certain number of 'lay' tist leader. Others were Feargus or 'running-days.' The rate and time o'Connor, Attwood, Stephens, of payment for the freightage, and Lovett, Earnest Jones, Thomas date of the beginning of demurrage are also stated. The contract may be Star became the newspaper organ of for a definite time, or for definite the movement. In 1839 the National voyages. Perils of the sea for which Charter Association was formed in be re-

of the agitation st degree. Menisection favoured

Charters Towers, a mining tn., and riots, if their demands could not Devonport co.. Queensland, Australia, 82 m. S.W. of Townsville. It is the centre of a famous gold-field, the gold being of very fine quality. An excellent water supply is available the demands were adopted from from the Burdekine river. Pop. 5600. much earlier reformers, Cartwright's

held on Kennington Common. Government forbade the procession, and Wellington posted troops to guard the city, special constables being also enrolled, among them being Louis Bonaparte (Emperor Napoleon III.). cessions made in reform bills. See land and Carlyle on Chartism; Gammage, Somerset. History of the Chartist Movement, 1894; M'Carthy, History of our own Times; Life of Thomas Cooper; an Autobiography, 1880; Kingsley, records, e Monday, 1860; Political History of England, xii., 1907.
Chartres, the cap. of the dept. of Eure-et-Loir, 55 m. S.W. of Paris, and edited The town is divided into two parts—also go by The town is divided into two parts upper and lower—which are connected by very steep roadways. It is famed for its fine cathedral, Notre Dame, founded in the 11th century by Rishop Eribert and by Bishop Fulbert, and some opinions, it is the church in France. noted for their beauty and perfect from nature.

Proportion; the one, 351 ft. high, dates from the 12th century; the American lawyer and statesman, born other, 377 ft., and of a far richer at Cornish, New Hampshire. In 1830 design, was not finished until the lesettled in Cincinnati, where he won 16th century. The town is a seat of a great reputation as course for a higher a course of the seat of the a bishop, a court of assizes, and sesses a chamber of commerce,

ing colleges, a communal colleg girls, and a lycee for boys. The girls, and a lycée for boys. The und was largely market, which is held once a week, is instrumental in founding the Liberty party. He was the first Republican industries are chiefly flour-milling, povernor of Ohio, which position he brewing, distilling, iron-founding, lead from 1855-59, but was unsuccessleather-manufacture design matters. leather-manufacture, dyeing, making of stained glass and hosiery. In 858 C. was burnt by the Romans, and in 911 unsuccessfully attacked by them. In 1417 it fell into the hands of the English, who lost it again in 1432. In 1591 it was taken by Henry IV., who was crowned there in 1594. In the Franco-German War it was taken by the Germans, and during that time it was an important centre of opera-

Plan of Reform, 1776, and the Duke Carthusian monastery, founded in of Richmond's Bill, 1780, known as the year 1084 by St. Bruno. It is the 'People's Rights' measure. The situated in a wild, picturesque valley struggle of the C. may be divided into in the French department of Isère, two periods—1836-39, aiming merely about 13 m. N. of Grenoble. Its at industrial amelioration, and 1840-name was derived from a neighbour 48, taking on rather the nature of a ing village called Cartusia, now known socialistic revolution. The second as St. Pierre de Chartrense. The period was more important for this original monastery was founded bevery socialistic character. The C. retween the years 1132-37, but that of fused to support the Anti-Corn Law to-day dates only from 1676, the one tween the years 1132-37, but that of to-day dates only from 1676, the one League, as helping only the middle-classes. Disturbances were most fre-by fire. It contains four halls, where quent in the N. Finally a great formerly the priors of other monas-demonstration was announced to be tries in France, Burgundy, Germany, and Italy, used to be entertained. The chapel dates from the 15th century, but the cloisters, with their thirty-six houses, which were built As a party the C. disappeared after out the world for their manufactists, the movement declining partly ture of the celebrated liqueur. In owing to improved conditions of 1181 a Carthusian monk named St. labour, partly to the legislative concessions made in reform hims. for the use of the monks, are of later cessions made in reform bills. See land and founded a monastery in

Chartulary, or Cartulary, a collection of charters, particularly the registers, documents, deeds of title, records, etc., of a monastery; also used of the muniments of other cor-porations. Bound volumes containing duplicate copies of the documents are in existence. A modern printed and edited edition of such documents

also go by the name. Charybdis, see SCYLLA. Chase, John (1810-79), an English water-colour painter, born in London, was a pupil of Constable. One of his -vn works is of the interior of ter Abbey. He wrote on painting and sketching

whose cause he ld. On account very he left the

ful as Republican candidate in the presidential election of 1860. 1861-61 he was secretary of the treasury, managing the country's finances with the greatest ability and credit during the years of the Civil War. The establishment of a national banking system and the issue of treasury notes canco-German War it was taken by "greenbacks") were two of his most successful measures. In 1864 Lincoln appointed him chief-justice of the United States; in which capacity he presided at the trial of President

Andrew Johnson, 1868. Sec A. B. Hart's Salmon Portland Chase in the American Statesmen series, and Schmucker's Life and Public Services

of S. P. Chase, 1874.

Chase, William Merritt (b. 1849), American painter, born at Franklin, Indiana. He was a pupil of B. F. Hays of Indianapolis and of J. F. Eaton in New York, and later of Piloty and A. Wagner in Munich. He taught painting in New York for some years. He is a most successful por-trait painter; his pictures of Whistler, the painter Davenrik, General Webb, etc., being well known. He was president of the Society of American Artists.

Chasidim, see Assidians. Chasing (Rom, coldura; It. cese-latura; Ger. ciselirung; Fr. ciselure), signifying 'chiselling.' The art of producing figures and various orna-The art of mental designs, which can be either raised or hollowed on metallic sur-faces with steel implements. It is employed chiefly for the ornamentation of goldsmith and silversmith articles, electro-plate, etc., being used to create flutings and bosses; it is also used to imitate engraved sur-faces. Very delicate results may be achieved by this method, the most perfect examples of which may be seen in the chasing on the watch-cases by Mr. G. M. Moser, 1704-83. The worker first outlines the design on the surface he wishes to ornament; then, should bold and high embossments be the desired effect, these are blocked out by a process called snarling. The snarling iron is a long iron tool turned up at the end, and made so that when it is securely fixed in a vice, the end that is turned up an easily reach and press against any part of the inside of the article that is to be chased. The part of the article to be embossed is held firmly against the upturned end of the snarling iron, then a strong blow is given by the worker at the opposite and of the iron, with the result the end of the iron, with the result that the point touching the object gives it the sudden stroke that is needed to throw up the surface of the metal just where it meets the tool. When the blocking out process from the in-terior is accomplished, or when the terior is accomplished, or when the process of chasing, instead of embossing, is required, the object to be chased is filled with molten pitch, when is allowed to harden. When this has taken place, it is then fas-tened to a sand bag, and all the details of the design—lined, smooth, or rough—are worked out by a hammer, and several small punches of varying outlines.

Chasles, Michel (1793-1880), a Fr.

was professor at the Ecole Polytechnique and later at the Sorbonne. He received the Copley medal from the Royal Society, 1863. In 1867 he made a report on the forged letters of Pascal to the academy, being with others the victim of Trèus Lucas. In his chief work, Apercu historique, etc., 1837, he gives a brilliant account of the progress in modern times of geometrical methods. Other works are: Traité de géométrie supéricure, 1852; Traité des sections coniques

1865, etc. Chasles, Victor Euphémien Phila-rète (1798-1873), a French writer and critic, born at Mainvilliers. His father was a member of the National Convention, and voted for the death of Louis XVI. C. was brought up in accordance with Rousseau's theory in Emile, and learned the printing trade. He was imprisoned for his share in a Jacobin plot, 1815, and on his release went to England, where he worked for Valpy the printer and published critical articles in the reviews. On his return to France he did much inintroducing English, Russian, and Scandinavian literature. He was made librarian of the Bibliothèque Mazarin, and died at Venice. Some of his voluminous literary and critical works are published in Trente Ans de Critique, twenty volumes of studies in comparative literature, 1846-75.

Chasse, David Hendrik, Baron (1765-1849), a Dutch general. He served with the French army after 1793 and during the Peninsular War; in 1815 with the Dutch at Waterloo. In 1830 he was governor of Antwerp and conducted a brave defence against the French. He was named by soldiers General Bayonet, from his devotion to that weapon

Chassepot, Antoine Alphonse (1833-95), French inventor of the rifle known by his name. He was born at Mutzig, and was a mechanic in the govern-ment arsenal. The Chassepot was a ment arsenal. The Chassepot was a breech-loading rifle, calibre '433 in., muzzle velocity 1328 f.s., sighted to 1200 metres. It was adopted by the French army. 1866, and was most successful in the Franco-Italian War. 1867. The Prussian needle gun was matched against the Chassepot in the yar of 1870. The Gres rifle prolaced war of 1870. The Gras rifle replaced the Chassepot in 1874. The inventor received the Cross of the Legion of Honour.

Chassériau, Théodore (1819-56), French painter, born in the W. Indies. He was a pupil of Ingres, and subsequently studied in Rome. He was influenced by Delaroche. His Tepiinfluenced by Delaroche. His 'Tepi-darium at Pompeii' is in the Louvre. mathematician, born at Epernon, His frescoes at the Cour des Comptes,

commune. He was well known as a

portrait painter.

Chasseurs (Fr. for 'huntsmen,' cf. Ger. jäger). In the 18th century the name was given to soldiers who formed a light company of skirmishers attached to a regiment; in the modern French army it is used of a class of light regiments capable of rapid movement. They are both mounted (chasseurs à cheval) and on foot (chasseurs à pied). The 'Chasseurs d'Afrique,' first organised in 1831 and stationed in Algeria, are famous for their speed and endurance, and for their speed and endurance, and for their Arab horses. The 'Chasseurs Alpine' are regiments of infantry, stationed on the S.E. frontier of France, and are trained to cover 37! m, of mountain ground in a day in full marching order. In the seven months of snow they are trained to use 'ski ' and snow shoes.

Chastelard, Pierre de Boscosel de (1540-63), a French poet, born in Dauphine. He was a descendant of the family of the Chevalier Bayard. and became a page in the household of the Constable Montmorency and of Marshal Damville. In 1561 he accompanied the latter to Scotland in the suite of Mary Queen of Scots, with whom he fell violently in love. He came a second time to Scotland with Ronsard's poem, Les Regrets, and recommendations from Montmorency. Entering the queen's service, he wrote passionate poems to her, and if she did not encourage him, she at least accepted his verses. He was found under her bed by her maids of honour, but was forgiven. A second offence was unpardonable, and he was According to Brantôme he went to his death reciting Ronsard's hymn to death. His last words, addressed to the queen in Holyrood, Adieu, toi si belle et si cruelle, qui me tues et qui je ne puis cesser d'aimer,' have often been quoted.

· Chastellux, François Jean (1734-88), French author and general, born in Paris. He served with honour during the Seven Years' War, and fought in the American War of Independence. His best known works were: De la felicité publique, 1772, and Voyages dans l'Amérique Septentrionale, 1764.

Chasuble, an eccles. vestment, worn by bishops and priests of the Roman Church during the celebration of mass, formally known as planeta. Originally the C. fell below the knees; it became gradually modified till in the 16th century it reached its present form, that of a sleeveless vestment, open at the sides and covering the chest and back. The C. was formerly plain, but it is now frequently embroidered and adorned

Paris, were partly ruined in the Paris; 'orphreys.' It must be of silk. exquisite example, of 16th century Italian work, may be seen in the Victoria and Albert Museum, South Kensington. The C. owes its origin to the Roman pænula, a cloak worn by both sexes and all classes. Though specially a clerical garment it had no special significance in early church use, and it was first definitely reserved as a eucharistic vestment in the 11th century, and was formally assigned to the celebrating priest in the 13th century, as the special mass vestment. The C. was abolished in the English Church after the Reformation with the other vestments.

Chat, a popular name for birds belonging to the genera Saxicola and Pratincola, both of which are included in the Turdide, or thrush family. S. enanthe, the wheatear, P. rubicola, the stonechat, and Prubetra, the whinchat, are all birds to which the term is applied. They we likely incontinuous creatures. are lively, insectivorous creatures, dwelling in northern lands and nesting in stony places.

Chata, or Pterocles alchata, a re-presentative member of the Pteroclidæ, or sand-grouse family. It is a desert bird living in S. Europe, Africa, and Asia, and is considered to

be good eating.

Chatalja, a prov. and tn. of European Turkey. The town is 25 m. N.W. by W. of Constantinople. To the eastward are the Heights of Chatalja, upon which are extensive Chatalja, upon which are extensive fortifications. C. was the scene of much sanguinary fighting between the Bulgarian and Turkish forces in the Balkan War (q.v.) of 1912 and 1913. Here, too, during November occurred the heavy mortality from cholera among the Turkish troops. This outbreak commenced about Nov. 7, and during the height of the epidemic about 1000 fresh cases were reported each day. It was also at C. reported each day. It was also at C. that the pourparlers took place which led up to the truce in the war. The delegates of the Balkan allies and Turkey first met on Nov. 25, and on Dec. 3 all the parties, with the exception of Greece, signed the armistice. During this armistice, which lasted till the end of January 1913, the delegates of the belligerent countries met in London.

Château, the Fr. word (from Lat. castellum, fortress) for a castle (q.v.). During the late 15th and 16th centuries, when houses began to be built for residence only and not as castles for defensive purposes, the term became applied to all large country houses. The fortified castle ently was termed château fort, and the with residence château de plaisance; the latter often retained some, at least, l'enthièvre, parts of which are still of the architectural features, tourelles. in existence. It is the seat of a subtete, of the medieval eastle of prefect, and possesses a tribunal of defence.

Châteaubriand, François René.

Châteaubriand, François René.

Châteaubriand, François René, Vicomte de (1768-1848), the principal French writer under the First Empire, was born at St. Malo, and after a somewhat unhappy childhood, entered the regiment of Navarre. In 1791, inspired by a desire for adventure and the natural life, he went to America, but was recalled by the news of the arrest of Louis XVI. married immediately on his return, and then joined the ranks of the 'emigrants.' After being wounded 'emigrants.' After being wounded at the siege of Thionville, he visited England who a livelihood

In 1797 he In 137 he project the first century. To be revolutions anciennes et modernes, etc., from the town. Trade is carried on a confused work marked by much by wool and cotton spinning, and the ill-digested learning. It is so of oil, flannel, and serge, and despairing, and its an agricultural market.

easiness prepares one for

version which the deaths of his mother and sister brought about. This conversion led to his great apology for Christianity in poetry. In 1801, Atala, an episode detached from the greater work, was published. It showed a new, daring, and brilliant writer, a reformer both in prose and in poetry. In 1802 appeared Le Génie du Christianisme. The writer does of Aise, on the Marne, France, It was the pagan mythology. His romanti cism appears in a more concentrated form in René, another episode detached from the main work. On his return to France, C. received an appointment under Napoleon, and in 1809 published Les Martyres, which contains the argument of Le Génie du Christianisme cast in an objective form. Two years later he published L'Hinéraire de Paris à Jérusalem, after a pilsrimage to the latter town. C. is, with Mme. de Staël, the leader of the Romantic movement of the early 19th century. He reformed early 19th century. He referred poetry, history, the novel, and in addition to this he was one of the greatest masters of French prose. See Sainte-Beuve, Chataubriand et son groupe lilléraire sons l'Empire. Paris, 1860; E. Faguet, Le XIX. Siècle, Paris, 1887.
Châteubriant a to in the deat of

Châteaubriant, a tn. in the dept. of Loire-Inférieure, France, situated on the R. Chère. It is a centre of im-

the dept. of Eure-et-Loir, France. The principal trade is in grain, wool, hemp, and cattle, while the industries comprise tanning and leather-dressing, flour-milling, the manufacture of blankets, silver jewellery, nails, and machinery. Amongst the public institutions there is a tribunal of first instance, also a communal college. The most celebrated building in the town is the chateau, built by Jean, Count of Dunois. Pop. 5800,

Chateau-Gonthier, a town, dept. Mayenne, France. Its origin is said to be owing to a castle built by Gunther in the 11th century. It

Châteauroux, the cap. of the French dept. of Indre, and situated on the R. Indre. The ancient quarter of the town lies close to the river, and round this centre a newer quarter has now sprung up. Its name is derived from a castle built in the 10th century by Raoul, Prince of Déols. This castle, with the called Chateau Raoul, with the modern Gothic church of St. André,

still stands in ned after him.

Not far from Chateau-Thierry the Russians and Prussians were defeated by Napoleon in 1814. Its industries are the making of musical and mathematical instruments, and trade is carried on extensively in the white wine of the country, also in cattle, sheep, and agricultural products. sheep, an Pop. 6800.

Chatel, Ferdinand Toussaint Fran-cois (1795-1857), born at Gannat, Allier. He was a religious reformer and separated from the Catholic Church, founding a new communion. the Gallic Church. He denounced celibacy and private confession, and wrote many religious essays.

Chatelaine, the French term for the mistress of a castle; she carried the keys of the castle suspended from her girdle, and thus the term is used of a collection of small chains with portance on the Ouest-Etat railway, useful small articles, such a keys, and on a tached to the ends, fitted with a d in clasp and worn at the belt.

Châtelet, a tn., Hainault, Belgium,

on R. Sambre. It is a mining centre. the deep channel of the river was Pop. 12,105.

Châtelet, Le Grand, an old fortress on the r. b. of the Seine in Paris, on the site now occupied by the Place du Châtelet. The first mention of it is in a charter of Louis le Jeune, 1147, It was the city prison in the time of

the Renaissance, and a court of justice, but was destroyed in 1802. Châtelet, Le Petit, a smaller fortress on the opposite bank of the river, also used as a prison and destroyed in 1782.

Châtelet-Lomont, Gabrielle Emelie took up his abode with her at the Château of Cirey in 1735. Many accounts of the life at Cirey have been written, the best known being those of Madame de Grafigny, who credits the fair Emelie with a very bad temper and describes her quarrels Voltaire with considerable humour. She seems to have tired of ed her officer

She published several works and translations, and in conjunction with Voltaire wrote a treatise on the Newtonian system.

Chatelineau, a tn., Hainault, Belgium, situated on the river Sambre, 27 m. E. of Mons; it is a mining town with big coal fields and iron works. Pop. 13,154.

Châtellerault, a tn. in the French dept. of Vienne, 40 m. S. of Tours. It is not of much interest, the principal industry being the manufacture of cutlery; it has also a government small-arms factory. A fine stone bridge connects the town with a suburb on the other side of the river. Pop. 15,000.

Chatham (A.-S. Cetcham), a parliamentary and municipal river-port town in Kent, situated on the r. b. of the Medway, and joined on the W. side by Rochester, and the E. by Gillingham. The town possesses very few chieces of interest and owes most

ilitary forti-It is one

shipbuilding centres in England, the length of the dockyards being nearly two miles, supporter by making him one of his which contain several building slips grooms of the bedchamber. Pitt and wet docks, the latter capable of soon took an active part in the holding the largest ships. In th middle ages C. was merely a suour of Rochester, but Henry VIII., t whom we owe the foundation of

made use of by Elizabeth, who built a dockyard and an arsenal here. The defences of C. constitute a fortification of great strength, and are a great protection to London should invaders succeed in landing on the S. coast, in order to march on the capital. Fort Pitt, rising above the town to the W., built in 1779, is utilised as the general military hospital. There is a large convict establishment; also an almshouse built in 1592 by Sir John Hawkins for disto connelier de Breteuil, Marquise du days been entirely re-built. At one beautiful daughter of the Baron de time traces of old Roman remains Breteuil, and married the Marquis were discovered in the form of du C. in 1725. Her fame is due to her intimacy with Voltaire who, at lass human remains. The modern tracted by her eleverness and beauty were discovered in the form of weapons, Roman bricks, and tiles: also human remains. The modern church of St. Mary's, opened in 1903, stands on the cite of an all Stands on the cite of an all Stands. stands on the site of an old Saxon church. There is also St. Bartholomew's Chapel, which was formerly attached to the hospital for lepers, one of the first founded in England, by Gundulph. bishop of Rochester, 1070, partly of Norman architecture. In 1905 King Edward VII. unveiled a memorial arch in memory of the Royal Engineers who fell in the South African War. Pop. (1911) 42,250.

Chatham, also called Miramichi, tn. in Northumberland co., New Brunswick, Canada, a port on the Miramichi R., 24 m. from its mouth. Extensive fisheries are carried on, also a trade in lumber. Pop. 5000. Chatham, capital of Kent co.,

Ontario, Canada, a port situated on the Thames R., 64 m. S.W. of London, connected with Detroit and the cities on Lakes Huron and Erie Fruit is by a steamboat service. grown there, and exported. It possesses a waggon factory and flour and manufactures fanning mills,

mills, engines, etc. Pop. 9068. Chatham, William Pitt, first Earl of (1708-78), statesman, was educated at Eton and Trinity College, Cam-bridge, and early in 1731 was gazetted cornet in Lord Cobham's Horse. Four years later he entered parliament as

Shortly after, the prince rewarded his supporter by making him one of his grooms of the bedchamber. Pitt

regular navy, established dockyards, and the natural harbour formed by which blocked his progress for a long

time. Under Pelham he was appointed early in 1746 joint Vice-treasurer of Ireland, but in May of the same year he was promoted to the position of Paymaster-General of its position of the paymaster of the position of the paymaster of the p the Forces. This was the most lucrative office in the ministry, owing to the numerous and valuable perquisites attaching thereto; but Pitt, to his great credit, declined to accept anything but the actual salary. On Pelham's death, Pitt hoped to lead be pla the House of Commons, and, dis-

of Newcastle. He was dismissed late in 1755, but a year later he was invited to form an administration. In April 1757, dismissed by the king,

ven stronger a few weeks, held office

ership of the Duke of Newcastle) until October 1761. It was during this period that he was able to give the fullest proofs of his ability as a war minister, for he had returned with full powers to direct the war and to take charge of foreign affairs. He declined office in 1763, but continued to take as active a part in debate as his health would allow. When Rockingham was dismissed in July 1766, Pitt was invited to form another administration, but he was not well enough to do more than take the sinceure office of Lord Privy Seal in his own ministry. This necessitated his accepting a peeragea step that made him for a time very unpopular. The city especially resented 'the Great Commoner' becoming the Earl of C., and actually cancelled a banquet that was to have been given in his honour. His health now completely gave way, and he resigned the office of Prime Minister in Dec. 1767 to the Duke of Grafton, holding, however, that of Lord Privy founding, and trade is chiefly in Seal until the October of the following rear. He was taken ill while making a vigorous speech in the House of Lords against the acknowledsment. Lords against the acknowledgment Cha of American independence falloit he chica had never approved the war

had never approved the war
7,1778. He died at Hayes c
and was buried in Westminster Abbey of the finest feats of engineering on June 9. C.
figures among I
fig enormous, and it was due not more 182 to a general appreciation of his abilities than to his fearlessness and his Chatou, a

· Chatham Chest, a charitable fund originated by Sir Francis Drake and Sir John Hawkins in 1588 to assist sick and wounded seamen. It takes its name from the money having been placed in a chest kept at Chatham that had five locks, the keys of which were held by the officers who had charge of it. Four supervisors and seven directors were appointed to look after the accounts, which had to be placed before parliament every year. Twelve acres of land were assigned to the charity by Charles II., and the fines imposed by the courtsmartial were also handed over to it in 1688. In 1802 the chest was moved to Greenwich and the fund in-corporated with Greenwich Hospital; up till 1829 a considerable part of the money was raised by deductions from seamen's pay.

Chatham Islands, a small group of islands, including some rocky islets, in the Pacific Ocean, lying 360 m. E. of New Zealand, to which they belong. These islands were discovered in 1791 by Lieut. W. R. Broughton, who named them after the boat which he was commanding at the time of the discovery. The natives were called Majorioris, and their dress consisted of sealskins or mats. In 1831 they were conquered by 800 Maoris from New Zealand, and in 1849 there were only ninety survivors out of a total population of 1200, the race being therefore all but exterminated. The chief export of the islands is wool, and the industries represent cattle and sheep-breeding, and seal-fishing. The climate is colder than that of New Zealand, while the soil is extremely fertile, with luxuriant growth of fern and flax.

Chat Moss, a peat bog in Lanca-land. It lies between Liverpool, and

is now

Chatou, a tn. of France in the dent. well-deserved reputation for integrity of Scine-et-Oise and the arron, of and self-disinterestedness. There are Versailles, on the river Scine. It is biographies by Francis Thackeray, 3 m. E. of Saint Germain, and 8 m. 1827, and Albert von Ruville, 1905. Chatra, or Chiltra, a tn. of British whatsoever is no more than personal India, in the dist. of Hazarybaugh, property, and descends as such on Pop. about 10,000.

Chatre, La, a French tn. in the Chattels (O. Fr. chatel, from Low dept. of Indre, and standing on the Lat. capitale), in English law, a term river of the same name. It is situated used to designate any kind of perto the S.E. of Chateauroux. Pop. about 5000.

Chatswood, tu., New South Wales, Australia. It lies about 5 m. N.W. of Sydney and is a good residential neighbourhood. Pop. 2600. Chatsworth, a vil. in Derbyshire.

Chatsworth, a vil. in Derbyshire, money, plate, furniture, and such England, containing the famous seat personal movables. The laws with of the Dukes of Devonshire. The original Chatsworth House was built by Sir William Cavendish in 1557, Queen of Scots was imprisoned under the cave of the Beal of Street burden. Queen of Scots was imprisoned under the care of the Earl of Shrewsbury. Later it was pulled down and the present house was built in 1688 by William first Duke of Devonshire. It is a quadrangular building with an open courtyard in the centre, and lonic in style, standing on the left bank of the river Derwent about 2½ m. from Bakewell. The magnifi-cent cardens with the yast conthe town possesses breweries, and central gardens with the vast conservatory and numerous fountains of a Benedictine convent of the 10th were designed by Sir Joseph Paxton. The house contains priceless collections of pictures and statuary, and some very beautiful wood carving the table of the Island Francisco of the

Chattahoochee, a river in Georgia. U.S.A., forming part of the boundary on the west, and joining the Flint, after which it becomes the Appalachicola. It is navigable for about 200 m., up to Columbus, the total length being 500 m.

Chattanooga, the cap. of Hamilton co., Tennessee, U.S.A., on the Tennessee R. It is important as a commercial and railway centre, doing a large trade in lumber, grain, and coal, and manufacturing iron, steel, machinery, etc. It is famous for the battle fought there during the American Civil War, which consisted of a series of engagements, including that of Lookout Mt., known as the battle above the clouds,' and that of Missionary Ridge, when the of Missionary Ridge, when the Federals under Grant defeated the Confederates under Bragg, Nov. 23 to 25, 1863. The national cemetery to the E. of the city contains the graves of over 13,000 Federal soldiers. The city contains some fine buildings, and the city contains some fine buildings. and possesses a university known until June 1907 as the Grant University, comprising schools of law, medicine, and theology. Pop. 34,297. Chattel-interest (also Chattel-real),

nlaw denotes any interest in heritable land less than a freehold estate. A lease is said to be a C. in real property on the fundamental principle of English real property and land, that a term of years of any length

intestacy.

sonal property. This property is divided into 'chattels real' and chattels-personal.' The former include any estate or interest in lands or buildings which does not amount to a freehold. The latter include reference to the two classes differ

considerably. Chatterer, in ornithology, is a word that has been applied in a loose sense to many birds without special regard to its applicability. It is often used particularly for Ampelis garrulus, the waxwing, but is frequently used for other passeriform birds which are

members of the family Cotingidæ. Chatteris, a mrkt. tn. in Cambridgeshire, England, situated in the administrative county of the Isle of Ely.

then took up journalism in London. In 1902 he became sub-editor of the Art Record; in 1902-3 worked on Ruskin's MSS. for the Library Edition of Ruskin; was London correspondent of the Sheffield Weekly Independent; sub-editor of the Daily Mail, and dramatic critic to several papers. In 1904 he became several papers. In 1904 Re became editor and dramatic critic of the Lady's Realm. His works include T. Sidney Cooper, R.A., 1903; Sailing Ships; The Marriages of Mayfair; Modern Journalism, 1909; Steamships and their Story, 1910; The several papers. Story of the British Navy, 1911; King's

70), poet, of a poor wa lave been scl entered Colston's Hospital at Bristol at the age of eight, his faculties seem to have awakened. He began to draw, and he became an omnivorous reader, his tastes inclining to poetry. At the age of twelve he wrote a poem, Elinoure and Juga, on old parchment and with obsolete spelling, which deceived the junior usher of the school, Thomas Phillips, who was convinced of its antiquity. Thus encouraged, he continued what was to him a delightful game, and forged a pedigree of the De Berghams, which was accepted by their descendant, a pewterer named Henry Burgum. In

ing year hoaxed that whole city with France under Edward III. a description, alleged to be from an made prisoner, but ransomed some old manuscript, of the opening of months before the Treaty of Bretigny Bristol Bridge in 1248. He now in 1360. Nothing is known of the next carried the joke further. He sent to Horace Walpole a 'transcript' of The Ryse of Peyncleynge in Englande, written by T. Rowlie, 1469, for Mastre Canynge. Walpole was deceived, and had some thought of printing them at his own press, but before doing so showed them to Gray and Mason, who pronounced them forgeries. Whereupon Walpole returned the manuscript to the lad. C. came to London in 1770, and living in a garret, wrote many verses, including the Excelente Balade of Charitic. He seemed to have a fair prospect of making his way, for Alderman Beckford became his patron; but Beckford deed on Iune 21 and he could ford died on June 21, and he could find no publisher or editor to employ penniless condition, on Aug. 24 he poisoned himself with a real poisoned h C. should have died at the age of eighteen is one of the crying pities of literature, for what might not he should have written the Balade of Charitie, a poem that beyond all doubt places him in the front rank of English poets. Walpole has been blamed for his treatment of C., but this is not found. this is not fair. He had every right to be indignant at being imposed upon, but had he been a finer critic of poetry than he was, he would not even have been deterred by the discovery that the poems were not by 'T. Rowley,' but the work of a lad still living, for the merit of the poems is not so much in the old-world manner as in the matter. There are many who might have turned a modern poem into the spelling of other days, many, indeed, who might have done so better than C., but how many have had the genius to have written them? The Rowley controversery survived the author's death, but the question has been definitely settled by Professor Skeat in his edition of Chatterton's works, 1875.

Chattisgarh, the name of one of the districts in the Central Provinces. India, which includes the districts of

Raipur, Bilas The total area

quantities of

1767 he was apprenticed to an at-tinued at court till 1359, when he torney at Bristol, and in the follow-joined the army which invaded six years of his life, but from 1366-72 he was again connected with the court, being at one time a valet of the king's household. At the death of his patron, Prince Lionel, in 1368, his services were transferred to John Gaunt. Duke of Lancaster. It was at this time that he first began to write. For the next twelve or fourteen years C. was constantly employed as a foreign diplomatic agent. During 1372-73 he was in Italy, first visiting Genoa on a commercial mission, and later Pisa and Florence. On his return he was rewarded by the grant of several privi-

Chaucer



GEOFFREY CHAUCUR

leges, including, in 1374, the office of the comptroller of the customs and subsidy of wools, skins, and leather for the Port of London. In 1375 he received the custody of the lands and person of Edmond Staplezate of Kent, and in 1376 was employed upon a John Burley. During 1377 he went to Flanders, and later to France, to treat for peace with Charles V.: in 1378 to France and Lombardy; in 1382 was appointed comptroller of the petty customs, and in 1386 became member of parliament and a knight of the shire for Kent. Later in the year he vated, and comprises one of the was reduced to comparative poverty industries.

Chaucer, Geoffrey (c. 1340-1400), offices of comptroller, apparently at an English poet, born in Thames the institution of Thomas, Duke of Street, London, the son of a vintner. Gloucester. In 1387 he lost his wife, about sixteen years of age he be-Philippa, and in 1389, on the return came pure to Flightch the wife of this parton, Lohn of County for the return for the price of this parton. came pure to Elizabeth, the wife of of his patron, John of Gaunt, from an Lionel, Duke of Clarence, and con- absence abroad, was appointed clerk

to be called the

of the works at Westminster. In 1390 humour; and the Hous of Fame, an hesuperintended works at St. George's unfinished poem, showing the influ-Chapel, Windsor, at Woolw ch, and at Smithfield, but in 1391 lost his position. For the remainder of his life, in spite of various minor posts and pensions, he seems to have been in an entirely original poet except in want, and he died, at about siyears of age, in a house he had acquired at Westminster. His wo them.

and previous to 1372, his work was entirely imitative, and based on the popular French poems which would be the matural models of a young poet of the time. He himself tells us that he made a translation of the famous romance, Le Roman de la Rose, but of this all trace has been lost except three fragments of doubtful authenthree fragments of doubtful authenticity. Probably his earliest poom which remains to us is the ABC, a prayer rendered out of rench at the request of Blanche, Duchess of Lancaster. To this period also belong the Compleyat to Pite, a poem of re-

memorate the death, at the age of twenty-nine, of the wife of his patron, John of Gaunt. The second, or Italian period (1372-84), is marked throughout by a love and knowledge of Italian poetry, gained during his first mission to that country. French romance was thrown over as he came to learn more of the full range and power of poetry, and the work of this time shows an enormous advance in time shows an enormous advance in form, simplicity, and directness of diction, humour, and, above all, the art of telling a story. Parts of several of the Canterbury Tales, such as the Second Nonnes tale, the Clerkes tale, the Knightes tale, the Man of Lawes tale, the Monkes tale, the Doctor's tale, the tales of the Prioress, Squise Tranklin and the rhymo of Signal Canada and the shown of Signal Canada and the shown of Signal Canada and the shown of Signal Canada and Signal C Franklin, and the rhyme of Sir Thopas, were probably composed during this period, but the most important complete poem produced under Italian influence was Troylus and Creseide (c. 1382), a very free translation, with many additions, of Boccaccio's Filostrato. The additions are excellent and full of originality, and while the passionate description of the ruined love of Troilus and Anelida may be reminiscent of the Compleint to Pite, the character of Pandarus foreshadows the humour of the Canterbury Tales. Other poems of this period are the Compleynt of Mars: Anelida and Ar ite; Boece; the Former Age, mainly taken from Boethius; the Wordes to Adam; the Parlement of Foules, full of delightful rative poet, considerable dramatic

ence of Dante. The prose translation of Boethius was also written at this time. The third, or English period, beginning about 1384, shows Chaucer of his work, and

oetry. Between fall into three periods, named, from place ne composed many of the most characteristic of the Canterbury Tules and the Prologue, revised and completed earlier tales, and consolidated the whole work. He also wrote the Legende of Good Women (1385-6), which was left unfinished; the Treatise on the Astrolube (1391), compiled mainly from Messahala, for his littleson Lowis, and left unfinished; the Compl int to his . urse; and several minor poems of doubtful date, such as Truth. The Canterbury Tales, upon which Chaucer's fame chiefly rests, owe their plan to the Decameron of Boccacci, in which stories are told by a band of fashionable ladies and gentlemen who had retired to a garden outside Florence to escape the plague. Chaucer transposes the idea contemporary English life by making the tellers of his tales members of a party of pilgrims on the road from Southwark to the shrine of Thomas à Becket at Canterbury. The pilgrims include men and women of every rank of social life, and re-present the church, the army, the court, law, medicine, trude, the sea, and the kitchen. The plots of their tales come from various sources. Many are foreign in origin, but much skill is shown in assigning these to suitable characters and bringing them into harmony with the general scheme by adaptation and addition. Many, such as the tales of the Miller, the Reeve, the Cook, the Wife of Bath, the Merchant, the Friar, the Nun Priest, and the Pardoner, are typically English, shrewd, good-tempered, inclined to be boisterous and full of a humour, which, if at times too broad for modern taste, is frank, hearty, and healthy. But frank, hearty, and nearly, perhaps Chaucer's genius is best displayed in the *Prologue* and the short connecting links between the various stories. The short sketches of the individual pilgrims which form the Prologue give the appearance and character of each with such vivid truth that they literally live for the reader. There is probably no document extant which is better calculated to bring home to the student the essential breathing humanity of the mediæval Englishman, as well as his peculiarities of dress and custom. Though Chaucer is in the main a nar-

the characterisation in the conversational interludes which comment on the stories told. The language in which the tales are told is sufficiently near to modern English to be easily intelligible with the aid of a glossary, while numerous 'translations' exist, in which, however, the peculiar charm of the original naturally suffers a little. Among the numerous edi-tions of Chaucer's works may be mentioned that of Skeat. See Life by Godwin, 1804; Nicholas, 1866; Ward, 1879; Legouis (English translation), 1913.

Chaucer, Thomas (c. 1367 - 1434), an English statesman, probably son an English statesman, probably son of Geoffrey. He had the early patron-age of the Duke of Lancaster, and held several posts under Richard II. and Henry IV., notably that of chief butler. He had large estates in Oxfordshire, which he represented in numerous parliaments. In 1407 and in 1414 he was elected Speaker of the House of Commons. Heserved onseveral diplomatic missions, and in 1424 became a member of the council.

Chaucer Society, The, founded in London (1867) by F. J. Furnivall, with the aim of supplying scholars with the aim of supplying scholars with MSS, and early texts relating to Chaucer not accessible to the public generally, and of facilitating Chaucerian, research, and encouraging knowledge of his works by all. Furnivall issued a six-text print of the Canterbury Tales for the society, and Concertance has been prepared by it a Concordance has been prepared by it.

Chauci, an ancient and powerful German tribe, mentioned by Tacitus as a people of great nobility, who lived by the shores of the German Ocean, in the district stretching be-tween the rivers Elbe and Ems. They, frequently warred with the Romans in the early part of the first century, but there is no record of them after the 3rd century.

Chaudesaigues, a tn. in the dept. of Captal, France, 19 m. S.S.W. of St. It is renowned for its hot mineral springs, which have a varying temperature, and at their highest point are among the hottest in France. These springs are said to have been known to the Romans. In the near vicinity of the town there are some

cold chalybeate springs. Pop. 1000. Chaudet, Antoine Denis (1763-1810), a French sculptor, born in Paris. After obtaining the grant prix,' he left his birthplace and went After obtaining the 'grand prix, he let his diffuplace and went Alliance as it was afterwards called, to Rome, in 1784, and here, in fluenced by the enthusiasm which prevailed in those days for the English nonconformist divine, born antique under Canova, he wrought his most famous works, 'Love,' 'Peace,' 'Paul and Virginia,' all of the Loverge 'Paul a which are in the Louvre; 'Ædipus'

power is shown in the continuation of | and the bas-relief ' Fine Arts ' being in the Musée Napoléon. He produced also a bust of Napoleon.

Chaudiontaine, a Belgian village, charmingly situated on a hill above the river Vesdre, five miles S.E. of Liège. It possesses hot mineral springs.

Chaudière, a river and lake in Quebec, Canada. The river rises in the vicinity of Maine, U.S.A., flows into Lake Megantic, and from thence travels in a N.W. direction to join the travels in a N.W. direction to join the St. Lawrence R., 7 m. distant from the town of Quebec. The C. Falls occur about 2½ m. from its mouth. The lake is 18 m. in length, and 5 m. in width. The R. Ottawa flows through it, and the lake has its termination at its E. end in the Great and Little C. Falls, close to which lies the town of Ottawa. Chaudoc. an arron of Cachin-

Chaudoc, an arron. of Cochin-China, on the lower arm of the river Mekong. The country is mountain-ous in the western part, and flat and marshy in other parts, and forms the plateau of Thatson, 1300 to 1600 ft. The chief products are rice, maize, veretables, and indigo. The inhabitants are composed of Malays, Chinese, Tsiams, Cambodians, and Annamites. The capital town, C., stands at the head of a canal which forms a connection with the river and the port Ha Tien.

Chaumette, Pierre Gaspard (1763-94), a French revolutionist, son of a shoemaker at Nevers. He was for some years a seaman, and led a wandering sort of life, becoming in 1790 a student of medicine at Paris, and an orator at the club of the Cordeliers. He was an ardent worker for social reform, and secured better conditions in the hospitals, and the suppression of obscene literature and ill famed houses. He fell under Robespierre's displeasure on account of his revolutionary proceedings, and was executed.

Chaumont-en-Bassigny, the cap. of the dept. of Haute-Marne, France. A picturesque town situated on a height between the rivers Marne and Su of Th

neighbourhood. It was here, in March 1814, that Great Britain, Austria, Russia, and Prussia concluded the treaty, or the Holy Alliance as it was afterwards called,

culties, and in 1638 he emigrated to Massachusetts. He preached for twelve years at Scituate, and in 1654 became president of Harvard College.

Chauny, a tn. in the dept. of Alsne, France, situated on the Oise, which at this point becomes navigable. Much fighting took place here during the Hundred Years War. Chief industries are the sugar factories, metal foundries, and breweries; there are also important chemical works. Pop. 10,000.

Chausses, defence pieces of armour for the legs, made of thick padded cloth or chain mail. They were usually fastened by lacing below the knee. In earlier times the word was

used to designate hose.

Chaussey a small island belonging to France, in the English Channel, nearly opposite the port of Granville. It is about 10 m. long by 4 m. wide. Granite is quarried in large quantities

during the summer months.

Chautauqua, a beautiful lake of glacial origin in the co. of Chautauqua, New York, U.S.A., 1300 ft. above sealevel. Its length is about 20 m., while the greatest breadth is 2 m. It lies 10 m. away from Lake Erie, and is 700 ft. above it. On its shores stands a large adult summer school, founded by Mr. John H. Vincent and Mr. Lewis Miller in 1874, for instruction in literature, art, and science. In 1878 the C. Literary and Scientific Circle was founded, which has its own magazine, and a college. The C. Assembly grounds, lying to the N. of the lake, cover about 165 acres, and contain about 500 cottages, a hall with seating accommodation for 5000 persons, a fine hotel, and a museum. It is the resort of many students and visitors in the summer season.

Chauvinism, a term used for unreasonable and exaggerated patriotism and pride in one's own country, with a corresponding contempt towards other nations. It is the French equivalent to the English 'iingoism.' Nicholas Chauvin was an old soldier of the republic, and, well known in Paris for his devotion to the cause, his name became a synonym for the blind worship given by Frenchmen to Napoleon. Chauvin las been represented on the stage as a patriotic character by many writers—in T. and H. Cogniard's La Cocarde Tricolore, 1831; in Bayard and Dumanoir's Les Aides de Camp; and Scribe's Le Soldat Laboureur.

Chaux de Fonds, La, an industrial tn. in the canton of Neuchätel, Switzerland. It is the chief centre of the watchmaking industry, and has a school for the engraving and

enamelling of watch-cases.

d to Chavanne, Joseph (1846-1902), a great Austrian traveller and geogreat Austrian traveller in N. America,
Scharz; and from 1884-85 he explored
in the Congo. His most celebrated in the Congo. His most celeb

Chaves, a fortified tn., on the r. b. of the Tamega, Portugal. It has silk and linen industries, and is famous for its hot saline springs. It was once

an important frontier fortress.

Chay Root, or Oldenlandia umbellata, is a species of tropical

Rubiaceæ, cultivated for its long roots, from which a red dye is obtained. It is also known as Indian

madder.

Chazars, a people living in the 7th century on the shores of the Caspian. In the 9th century they inhabited that tract of land stretching from the Caspian and Volga to the Dnieper. Their power was eventually crushed by the Byzantine emperors and the Russians in the 12th century. They were tolerant of all religions, and numbers of them adopted the Jewish faith from Jews who fled from persecution by the Emperor Leo.

Chazelles, a community in the Loire dept. of France, 23 m. from Lyons; has felt hat factories. Pop.

6000.

Chazy, a name given by American geologists to the limestone found at Chazy, New York, and elsewhere in the N. American continent, and constituting a subdivision of the Ordovician.

Cheadle, a market tn. in Stafford, England, 13 m. N.E. of Stafford. There are important collieries in the neighbourhood; also manufs. of brass, copper, and tin. The silk mills and tape factory form other considerable industries. The Roman Catholic Church of St. Giles was designed by Purgin, and erected in 1846. Pop. 5000.

Cheape, Sir John (1792-1875), an English general, who served in the first Burmese war, 1824. In 1849 he did admirable service in the battle of Gujarat, which the British won under Lord Gough. It is due to his efforts that the provinces of Pegu and Tenasserim were added to the East India Company's possessions in 1850. He was made a general in 1866.

Cheapside, a street in the City of London, lying between St. Paul's Cathedral and the Poultry. In olden times it was known as the 'Cheap,' or 'West Cheap,' and in the 14th century tournaments and jousts were held there. They were given by the

in C.

Checquy, Checqui, or Checky, in heraldry, the term signifying small squares which constitute the field or charge of a shield, or escutcheon. Or. a fess checour azure and argent is the coat of the Scottish Stewarts. while that of Warren, Earl of Surrey. France, Vermandois in

checquy or and azure.

Cheddar, a vil. in Somerset, England, 22 m. S.W. of Bristol. Famed for the large stalactite caves which form a source of great attraction to summer visitors. The remains that have been found in these caves prove the existence of Roman settlements at C. The beautiful rocky way which leads from the Mendip Hills down into the village is known as the Cheddar Gorge. The noted Cheddar cheese is made here and in the surrounding district Pop. (1911) 1974.

Chedorlaomer (nudur-Lagamar). King of Elam, the chief of the four kings who fought a victorious campaign against the five rebel Canaanite princes mentioned in the 14th chapter of Genesis. Lot was taken by the kings, but was rescued one night in an attack made by Abraham. The name signifies 'servant of Lagamar,' an Elamite god, and the name of

Babylon.

Cheduba, or Man-aung, an island in the Bay of Bengal, 10 m. from Arakan. The soil is fertile, the chief

of milk, produced by separating proteinous or nitrozenous substa-

proteinous or nitrozenous substak too large known as casein or curd, from Consult whey. The fatty matter in milk for an important constituent of C., and often there is present in C. a greater 1896: Eugling, Handbuch für die percentage of lat or butter than of praktische Käserei (Leipzig), 1901; casein. Therefore, the finest Cs. are 1896: Prépardion et maturation des made from the richest milk, and the grafiches thinds of C. on the market. made from the richest milk, and the crutes as promagers (parts), 1900. various kinds of C. on the market Cheese-hopper, or Cheese-skipper, are as much due to the different listhelarva of a small dipterous insect, qualities of milk in various districts Piophila case, of the family Sepside. As to the different processes of making. The adult fly lays its errs in cheeses, C. was known in very early times; and the larvæ feed on the matter in frequent references to it occur in which they have been hatched.

king, and held opposite Bow Church, from a balcony of which the queen, methods used in C.-making are court, and nobility used to watch the proceedings. Until 1399, there stood in milk is separated by acids in the the Old Cross, at the W. end of Cheapide, beside which Stapleton, Bishop of Exeter, was beheaded.

Cheating, see Frakub.

Chebyers. when the rennet is added in a liquid Cheboygan, a city in C. co., when the rennet is added in a liquid Michigan, U.S.A. It is situated in a form, which causes the milk to ferfertile farming district, and possesses ment. The curd, thus produced, is paper and lumber mills, and tan-cut across into several pieces. The neries. and then heated up to 90°-100° F. The object of the operator is to bring about the proper consistency of curd, without lo-ing any of the fat of the butter in the whey. The whey is finally drawn off, and the curd left to settle until it becomes a firm solid. The fermenting action of the rennet continues during the period of ripening the curd. The curd is tested from time to time with a hot iron. If the development of acidity has been allowed to go too far, the curd be-comes brittle and cracks easily. When the hot iron test shows fine long flakes, the curd is cut up into slabs and passed through a small grinder. Salt is now added to the substance to prevent any further development of acidity, and the substance is wrapped in cloths, and left to mellow in a cool room or cellar. The hard Cs., made in the United Kingdom and in America, improve in quality by keeping. They are generally left for several months to ripper, and when Sniphed are faithly head in which wen finished are fairly hard in substance. Continental Co., on the other hand, are soft, most of them require to be eaten when quite fresh. The chief hard Cs. are: Cheddar, Stilton, Engiish Cheshire, Gloucester, Wiltshire, Gorzonzola, and Gruyère. The best-Kudur-la-ukh-gamar appears on a Gorgonzola, and Gruyère. The best-tablet of Khammurabi, a king of known soft Cs. are: Brie, Neuchatel. Camembert, and Limburg, and Phila-Cheduba, or Man-aung, an island in the Bay of Bengal, 10 m. from Arakan. The soil is fertile, the chief crops being rice and tobacco, also cotton, indigo, and the sugar cane. The island is noted for its good petroleum wells.

Cheese (Lat. cuseus), a preparation of milk, produced by separating the Bay of Bay of Bay of State Caseus), a preparating the second contents of the contents being from rich milk, contains about 36 per cent. fat and 28 per cent. protein.

Chas often been regarded as an of milk, produced by separating the second contents of the contents being from rich milk, contains about 36 per cent. fat and 28 per cent. protein can be supported by the separating the second contents being the contents account too large

Cheese-mite, or Tyroglyphus siro, curved and bear small hairs. C. an arachnid related to many other fragrans will grow in Britain under tes which are either parasitic or sheltered conditions. is an arachnid related to many other mites which are either parasitic or live on organic matter such as carrion and plants. The Tyroglyphus inhabits old cheeses.

Cheese-rennet, or Galium verum, a species of Rubiaceæ allied to the cleavers (q.v.), and obtains its popular name from having been formerly

employed to curdle milk.

Cheetah, Cheeta, Chita, and Hunting Leopard, are all names of Cynælurus jubatus, which, with the various species of Felis, e.g. lion, tiger, and leopard, constitutes the family Felidæ in the group Æluroidea, or cat-like carnivores. It differs from other carnivores. members of the family chiefly in having longer limbs with non-retractile, blunt claws, and the upper carnassial tooth has no inner tubercle. With such claws it is more adapted to obtaining its prey in chase, like the dog, rather than by cat-like stealth, and it is readily domesticated, again like the dog; when tamed it will purr like a huge cat. It is about the size of a leopard in length, but stands higher, and its tawny hide bears black spots. It is distributed over the whole of Africa, W. Asia, and India, and in S. India it is largely used in hunting.

Cheever, George Barrell (1807-90). an American clergyman and writer, born in Maine. U.S.A. He was educated at Bowdoin College, and from 1832-70 was pastor of the Congregational Church in Salem, Mass., and in New York. He was an active opponent of slavery and intemperance, and delivered many lectures on religious literary and scale questions. religious, literary, and social questions.

His most popular work is Lectures on

the Pilgrim's Progress.
Chefoo, or Chifu, a treaty port of the N. side of the Peninsula of Shantung, at the entrance to the Gulf of Pechili, and is the only port that remains open through the winter. It has the most healthy climate of all the treaty ports, and is much frequented by invalids as a health resort in summer. The town is built on the shore, and has a fort and a signal station. The chief exports are silk. straw-braid, and vermicelli, and the imports are sugar, paper, iron, and opium. C. is a place of increasing importance as a market for foreign goods, especially English cotton, yarn, and American sheetings. The port

Cheiracanthus, a genus of fossil fishes in the group Elasmobranchii, is a member of the family Acanthodide. Several species, e.g. C. Murchisoni, have been found in the Lower Old Red Sandstone of Scotland.

Cheiranthus, a genus of Cruciferæ which contains ten species of western and Mediterranean plants, and is represented in Britain by C. cheiri, the common wallflower (q.v.). C. semperflorens is a N. African species which bears white and yellow flowers in

different seasons. Cheirolepis, a genus of fossil ganoid fishes bearing minute scales, belongs to the family Palæoniscidæ and occurs in the Devonian. Ch. cummingia has been found in the Old Red Sandstone of the Orkney Islands and Morayshire.

Cheiromancy, see PALMISTRY. Cheiroptera, see BAT.

Cheirostemon Platanoides. hand-tree, is the single species of its genus and belongs to the Sterculiacere. It inhabits Mexico and will not grow in Britain. The plant is a lofty tree with the habit of a plane and a trunk the thickness of a man's body; at the head are dense branches, brownish at the tip from the short, favn-coloured hairs that beset them. The leaves are heart-shaped, and the bright red flowers bear stamens arranged in the form of a hand. The tree has been an object of curiosity and veneration from time immemorial, and rejoices locally in the name of Macpalxochitlquahuitl.

Cheke, Sir John (1514-57), an English classical scholar, educated at St. John's College, Camb., where, in 1529, he became a fellow. On account of his great abilities, he gained an exhibition from the king, and in 1540 he was made professor of Greek at the university. He numbered amongst his pupils at St. John's, Roger Ascham, who always speke of him in high terms of praise, both for his learning and character. He introlearning and character. He intro-duced a new pronunciation of Greek, which at first raised much opposition at the university, but C. finally pre-vailed, and the system was used in England until quite recent years. He was apostrophised by Milton in his 'Tetrachordon' sonnet. In 1554 he was made tutor to young Prince Edward.

later years he was banished in England, on account of his ous religious opinions. He realous religious opinions.

of small but beautiful ferns. The whilst travelling one day from Brusplants are usually found on mountained as the state of temperate countries, and in the character they are half-hardy and xerophytic; the fronds are often Terrified by the threat of death, he

sists of fellows, associates, and mem- undergoes physical change by means bers, both honorary and foreign, and is governed by a council chosen by the fellows. Those wishing to be the fellows. Those wishing to be elected as fellows must possess a certificate which has been signed by five fellows of the society, and they must be known personally to at least three of them. The headquarters are at Burlington House.

Chemin des Rondes, a level space, about 12 ft. broad, which is formed outside the rampart of a fortress or of an outwork, and raised a few feet! above the ground. It is protected on the exterior by a low wall. It is useful as a path for superintending officers: and is a station for defenders who are preventing scaling-ladders from being

U.S.A. the terms apothecary, drug-when the molecular structure of any gist, pharmacist, and chemist are substance is altered.

used practically as equivalent names History.—The ancient civilisations. used practically as equivalent names

History.—The ancient civilisations, for those licensed to compound and Egyptians, Phoenicians, Greeks, and sell medicinal drugs and poisons, but Romans, were familiar with several of three years must be served under distillation. some one opposed the bill of the Associated Apothecaries, 1812-15. Laws have been passed to define the liability for

of which it acquires the power of the magnet. On the other hand, a match rubbed on a match-box undergoes a chemical change by means of which flame is produced. Thus it is possible to make a distinction between the sciences of C. and physics. A chemical change involves some alteration in the essential nature of the substance. The match having been ignited has undergone a permanent change. whereby it is no longer combustible. The physical change quoted above involves no alteration in the substance itself, and the acquired property is further only temporary and can be continually lost and reacquired. The placed against the escarp-revelment, that every chemical change is accommended as a second control of the especially reserved for those who only sign that chemical change has have passed the 'minor' examinatian taken place. But it might be said tion of the Pharmaceutical Society of that C. is concerned with the investigation. At the terms apothecary department of the changes which control of the changes which control of the terms apothecary department.

sell medicinal drugs and poisons, but Romans, were familiar with several of the three classes are quite distinct in the metals and the processes of exthe United Kingdom, apothecaries tracting them from their ores, while forming the lowest rank of the pro-they also knew how to make allors, fession, and pharmaceutical chemists is usually of copper, lead, and tin. In the highest (having passed a 'major' addition to this the ancients were examination). Chemists and drug-familiar with the manufacturing progists have a licence to compound and sell medicinal drugs and poisons under the Acts of 1852 and 1868. To ware, wine, and beer, before they gain the title an apprenticeship of were familiar with the process of three years must be served under distillation. Geber, an Arabian already qualified, and chemist of the 8th century A.D., some one already quained, and chemist of the 8th century. A.D., a general knowledge examination knew white arsenic, borax, common equal to the Medical Preliminary of salt, alum, copperas (ferrous sulphate), the General Medical Council must be and sulphuric, nitric, and acctic passed. For a long time in England acids. The apparatus used by him the policy of Cs. and Ds. was defen- was similar to that used until the sive, and by 1802 a defensive associa- 18th century. From the 5th to the sive, and by 1802 a defensive associal 18th century. From the 8th to the tion was formed, which, later, strongly 17th century the science of C. drifted opposed the bill of the Associated into the hands of the alchemists. They were concerned with the production been passed to define the liability for injuries caused by carelessness or search for the philosopher's stone; ignorance. The history of Scottish and in the course of their studies they druggists has practically coincided discovered many potent medicines, with that of English since the Pharmacy Act of 1882. See Encyclopadia of the Laws of England, i., ii., iii.

Chemistry, a branch of that science which consists in the study of the changes which matter is capable of At the same time it must be reundergoing. These changes may be invised into physical and chemical, and although in the higher stages it impossible to draw a definite distinction between them, C. and physics can be given of both varieties of the theory that the transcan be given of both varieties of changes. For example, a steel needle in the course of their studies they discovered many potent medicines. Their writings are preserved, but the majority of them are worthless from a scientific standpoint, for they are so mixed with philosophical extravalent they are unintelligible. The same time it must be remained that their work was not entirely valueless, although it might emaiotine from the first of the philosophical sand in their sunce of their studies they discovered many potent medicines. Their writings are preserved, but the majority of them are worthless from a scientific standpoint, for they are so mixed with philosophical extravalent them C. and physics are search for the philosophics and in the course of their studies they discovered many potent medicines. Their writings are preserved, but the majority of them are worthless from a scientific standpoint, for they are so mixed with philosophical extravalent they are unintelligible. The same time if must be read with philosophical extravalent them C. and physics and the discovery of radium and its the same time if must be read with philosophical extravalent them C. and physics and provides a scientific standpoint, for they are so mixed with philosophical extravalent them C. and physics are prese of gold from baser metals, and in their

was the first to endeavour to rid C. gen combine with phosphorus in the of its alchemic tendencies. In his proportions by weight—phosphorus: book the Sceptical Chemist, he discredited the aichemictheory regarding salt, sulphur, and mercury as the elements of substances, and at the same time gave a scientific definition of an element. He it was who introduced the air-pump and the thermometer to this country, and his experiments on the physical properties of gases gave us Boyle's Law concerning the relation of the volume of a gas to the pressure exerted on it. Following him we have Becher (1638-82), and Stahl (1660-1734), who formulated the phlogiston theory of combustion. This theory stated that phlogiston was contained in all combustible substances. The act of combustion was regarded as the escape of phlogiston from the burning sub-Thus, when lead was burnt the material left, lead oxide, was regarded as the other constituent of the metal and was the calx. By heating a calx with some other substance rich in phlogiston, the metal was again produced, as when lead oxide is reduced on charcoal. This theory received a nasty blow when Boyle showed that the calx was heavier the metal, and that consequently the addition of the phlogiston to the calx results in a loss of weight. This was explained away, however, phlogiston had But

after the dis-Priestley, by of oxygen Scheele, and Lavoisier, the latter of whom finally destroyed it (1772-85). In the meanwhile Boerhave (1668-1738) published a system of C., and Marggraf (1709-82) studied alumina and magnesia and worked on the quantitative analysis of substances in solution. Among famous English chemists of this time may be named Cavendish (1731-1810), who studied hydrogen and atmospheric air, and made the important discovery of the compound nature of water and nitric acid, and Priestley (1733-1804), who discovered oxygen and studied nitric oxide, nitrous oxide, hydrochloric gases. etc. and ammonia Lavoisier (1743-94) was the first to lay down a real system of chemical nomenclature. Scheele (1742-86), who lived in Sweden, discovered a elements, which combine v given weight of another eleme compared, then they bear a

proportions by weight—phosphorus: chlorine = 1:3:43; phosphorus: phosphorus : Chlorine and hydrogen = 1:0.097. hydrogen also combine to make hydrochloric acid, and they do so in the proportion — chlorine: hydrogen = 35.5:1; and 35.5:1 = 3.43:0.097. Berthollet (1748-1822) studied chemical affinity and applied chlorine to bleaching, and Dalton (1766-1841) stated the atomic theory which placed C. on the basis of an exact science. exact science. Among the great chemists since may be mentioned Gay - Lussac (1778 - 1850), Dulong (1785-1838), Wollaston (1767-1829), Davy (1778-1829), who discovered the use of electricity for decomposing soda and potash with the consequent separation of the metals sodium and potassium. Berzelius (1779-1848) confirmed the law of constant proportions, fixed many atomic weights, and formulated the electrochemical theory of the constitution of salts. Those chemists mentioned above, while not regardless organic C., devoted their attention to the study of inorganic C. In 1828 Wöhler (1800-82) discovered that urea could be made in the laboratory.

> (1817-84),(1825-99), Ιđ others.

Among general chemists of recent times may (1791 - 1867)

sen (1811-9 Mendeleëff Van't Hofî.

Elementary principles of chemistry. Now to proceed from the general consideration of the science, in the first place we must recognise that to the chemist all matter, solid, liquid, or gaseous, is composed of minute particles called molecules. The molecules of any substance are all similar. In each of the three states, solid, liquid, and gaseous, the molecules are always supposed as moving. This movement will be greatest in the gaseous state, where the spaces between the molecules are greatest, and smallest in the solid state, where the inter-molecular spaces are smallest. large number of acids, chlorine, and inter-molecular spaces are smallest. oxygen. Richter (1762-1807) discovered the law of reciprocal proportions, i.e. that if the weights of various are called atoms, and olds these together is

affinity (that holding relation to the proportions in which those elements will combine amongst themselves, e.g. chlorine and hydrothese atoms are conceived as being in a state of motion. With this in mind it is between molecules; (3) by the renow possible to say that any change arrangement of atoms within a molewhich leaves the molecules intact is a physical change, while any change in the structure of the molecule itself

may be said to be chemical. Elements and compounds .- Now some molecules contain atoms of the same kind, while others contain atoms of different kinds. Thus, in a molecule of water there are atoms of hydrogen and oxygen, while in that of sulphur all the atoms are alike. When all the atoms are similar, we call the molecule an elementary one and speak of the substance as an element. On the other hand, we speak of the molecule with different atoms as a compound molecule, and the substance as a compound. Now it is evident that if a substance is composed of more than one kind of matter, i.e. is a compound, it can be built up from the component sub-stances (synthesis), or separated into these simpler substances (analysis or decomposition). If any substance can neither be split up into simpler substances nor built up from them, then it is said to be an element, and we assume that it consists only of similar At the present time there are about eighty elements. It is possible that some of these may, in time, be proved not to be elements. but at present it has not been possible to further decompose any of them. The number of components is practically infinite, since they consist of combinations of these elements. All substances which are not elements All substances which are not necessarily compounds. They are not necessarily mixtures. When elements are brought together, they may just mix without losing their identity or separate properties, or the atoms in molecules of the various sorts may separate out and re-mingle to form other and different molecules with perhaps quite distinctive pro-perties. The former would be said to be a mechanical mixture and the latter a chemical compound. example, carbon, sulphur, and nitre mix to form a dark grey mechanical mixture, which can be separated out again into its three constituents by

but if by e exploded the result is a rearrangement of the

atoms into different molecules with the consequent formation of chemical compounds. Chemical compounds are only produced by chemical action, which really consists in the rearrangement of various atoms into new molecules. This may result by: (1) The direct union of two molecules to form a more complex molecule: (2) an exchange of atoms

cule. As an example of (1) we may take the union of a molecule of carbon with one of oxygen to form carbon dioxide; of (2) the union of a mole-cule of hydrogen with one of chlorine, each containing two atoms, to form two molecules of hydrochloric acid, each containing one atom of hydrogen and one of chlorine; of (3) ammonium cyanate warmed gives urea. Both contain the same atoms, only in different arrangements, yet their properties are entirely different. Chemical action may result from a variety of causes. In some cases it is sufficient to just bring two substances together. In others heat is required to cause it. Chemical action is always accom-panied by the evolution or the absorption of heat. In the latter case, heat must be supplied to the substances to cause the action, e.g. if iron be brought to a dull red heat and it be placed in oxygen, it burns fercely with the formation of oxides of iron. Phosphorus, on the other hand, combines with the oxygen in the air at the ordinary temperature with the evolution of heat and light. In some cases light is essential to chemical action, as, for example, when chlorine and hydrogen gases are mixed: unless light be given them they will not combine. Photography depends entirely upon the fact of light causing chemical action. Again, in some cases while heat is required to start chemical action, the great evolution of heat in the process is afterwards sufficient to keep the action proceeding, e.g. it is necessary to heat a strip of magnesium in order that it may take fire. Then, however, no further heat is required, the great heat evolved being sufficient to set the strip burning furiously until the end is reached. Pressure also may cause chemical action, e.g. hydro-chloric acid and phosphoretted hydrogen gases will combine to form the solid phosphonium chloride under pressure. Sound also may cause chemical action. An explosion of mercury fulminate causes acetylene gas to break up into solid carbon and hydrogen gas. A peculiar process of chemical action can only be brought This mixabout in the presence of a third substance. In some cases this third substance is known to take a part in the action, while in others its action cannot be traced. In any case, however, that third substance is, at the end, unchanged. This type of action is known as catalytic. Further, some forms of chemical action require moisture. The rusting of iron, or the combination of sodium and chlorine to form common salt, cannot take place

In an absolutely dry atmosphere if placed on the left and the resulting the substances have also been substances on the right. Thus, MnO.+

thoroughly dried

with the same letter, the first and symbols. some prominent letter in its pro-nunciation is used, e.g. the symbols for Carbon, Cobalt, and Chlorine are C, Co, and Cl respectively. In other cases the symbol is taken from the first and some other letter in the Latin name for the element, e.g. Antimony (Stibium), Gold (Aurum), Lead (Plumbum), and Iron (Ferrum) are represented by Sb. Au, Pb, and These symbols in all cases stand for 1 atom of the element. A molecule is composed of various numbers of atoms, e.g. a molecule of hydrogen contains 2 atoms always, while a molecule of phosphorus always contains 4 atoms, while that of oxygen is always composed of 2 atoms. When 3 atoms of oxygen unite to form one molecule we get ozone. So to represent a molecule of an element it is necessary to state how many atoms are in it, and that is done by means of a small numeral placed after the symbol. To express the above facts molecules of hydrogen, phosphorus, oxygen, and ozone would be represented by H₂, P₄, O₂, and O₃. Again, the composition of a compound molecule is denoted in the same way. A molecule of sulphuric acid is composed of 2 atoms of hydrogen, 1 of sulphur, and 4 of oxygen, and would be represented symbolically by H.SO. some substances groups of atoms are combined to act as a single atom within a molecule, and to express this brackets are necessary, (NH4)2SO4 represents a molecule of ammonium sulphate, which contains 2 atoms of nitrogen and 8 of hydrogen combined into two groups, each consisting of 1 atom of nitrogen and 4 of hydrogen, together with I atom of sulphur and 4 of oxygen. These groups within brackets are known as compound radicals, and any represen-tation of chemical formation of molecules is termed a formula. Whenever it is necessary to represent more than I molecule, a numeral is placed before the formula, e.g. 2H₂O represents 2 molecules of water. By means of these formulæ chemical reactions can be shortly expressed in the form of an equation.

thoroughly dried.

Chemical symbols.—In order that

I molecule of manganese dioxide

we may shortly express chemical
compositions, certain symbols are
used to denote the various elements.

Under Elements (q.r.) these symbols

gas.

Whenever chemical changes 4HCl=2H2O+MnCl2+Cl2 means that Under ELEMENTS (n.-) these symbols gas. Whenever chemical changes will be seen following the name of the element. As will be seen, in some be expressed in this form, and as cases the symbol is the first letter in matter is indestructible, all the atoms the name of the element, e.g. the that appear on the left must have a symbol for Sulphur is S. In other place on the right of the equation. cases, where several elements start This explains the qualitative use of They have a further quantitative use which will be better

understood after a brief consideration

of the 4 laws of chemical combination. 1. The law of constant proportions.
The same compound always contains the same elements combined together in the same proportion by weight. However a chemical com-pound is obtained, this law holds, and therein lies an essential difference between it and a mechanical mixture which can obviously consist of varied proportions of the mixed substances. e.g. common salt, a molecule which consists of an atom of sodium combined with 1 of chlorine gas, may be obtained from salt mines, bringing sodium into an atmosphere of chlorine, by adding hydrochloric acid to sodium carbonate, and by a variety of other means. But whenever it is analysed it is always found to consist of 1 part of chlorine

0.6479 of sodium by weight.

2. The law of multiple proposition of two elements combine together to form more than one compound, the different weights of one of the elements which unite with a constant weight of the other, bear a simple ratio to one another.' This law simple ratio to one another.' was first recognised by Dalton. some cases the same elements combine together in different proportions, giving rise to two or more compounds. This does not violate the law of constant proportion, for each separate compound always exists with the same proportions by weight of the composing elements. When elements do combine in this way, however, this law holds, and it is best explained by means of examples. The following given by Newth represents the law well. Nitrogen and oxygen unite together to form five different compounds, in which the proportions of nitrogen to oxygen by weight are: Nitrous oxide, 1:0:571; nitric oxide, 1:1'143; nitrogen trioxide, 1:1'714; nitrogen peroxide, 1:2'286; nitrogen pentoxide, 1:2'857. Thus, the relative proportions of oxygen which unite with a constant proportion of nitrogen are in the proportion The substances used are 1:2:3:4:5 to one another.

law stated above.

3. The law of reciprocal or equiva-lent proportions.— The weights of different elements which combine separately with one and the same weight of another element, are either the same as, or are simple mulliples of, the weights of these different elements bining proportions of phosphorus with chlorine or hydrogen, and the consequent proportions of combination of hydrogen and chlorine. this law, the following illustrations will serve. Hydrogen, sodium; and potassium will unite with chlethe proportions by weight tively as 1:23:39:35.5. Again

of hydrogen, sodium, potassium, bromine, chlorine, and oxygen re-spectively. From which we would deduce that were sodium and chlorine (say) capable of chemical combina-tion, they would so combine in the

tion, they would so compine in the proportions by weight of 23:35.5. This is found to be correct.

Atomic theory.—Dalton connected these three laws together, and revived the atomic theory. Briefly, it is that matter is made up of minute particles called atoms. Chemical combination takes place between these atoms, i.e. they are drawn and held together by chemical affinity. Should they come into contact with other atoms for which either of the already combined atoms has a much greater affinity, then a process of redistribution of these atoms will take place. The atoms of different elements are supposed as having different relative weights, and these relative weights are supposed as being the same as those numbers which represent their combining proportions. So the equivalent weight of an element is supposed as being its atomic weight. Now this theory will satisfactorily account for the three laws mentioned above, and it is a generally accepted fundamental of thescience of C. Dalton's theory has to be revised in particular instances. For reasons which need not be given here, the combining proportions of oxygen, carbon, and sulphur, with 1 of hydrogen, are respectively 8, 6, and 16, while in any table of atomic weights the numbers will be

holds in all cases, thus verifying the | Gay-Lussac .- When chemical action takes place between gases, elements or compounds, the volume of the gaseous products bears a simple relation to the volumes of the reacting gases.' That is to say, that under similar conditions of temperature and pressure, simple relationship can be established between the volumes of thich combine with each other. In gases in any chemical reaction. The the brief history of C. a simple illustration is given of this in the compact of the c 2 volumes of nitrous oxide will decompose producing 2 volumes of nitrogen and 1 of oxygen. Again, 2 volumes of nitric oxide will decomshow the remarkable application of pose giving 1 volume of nitrogen and 1 of oxygen. But a further generalisation can be noted here. Taken by re-

: 16 same elements will unite with bromine nitrogen constant. By volume in these in the proportion 1:23:39:80, and two gases nitrogen: oxygen: 2:1 with oxygen in the proportion and 2:2 respectively. So that there is with oxygen in the proportion and 2:2 respectively. So that there is 1:23:39:8. So that taking these twice as much oxygen by weight and separately we can say that 1, 23, by volume in nitric oxide as there is in 39, 80, 35:5, and 8 are the equiranitrous oxide. While if 14 and 16 be lent weights or combining proportions the atomic weights of nitrogen and oxgyen, then the numbers showing the relative volumes gives the number This development was of atoms. brought about by Avogadro, who formulated a hypothesis now known by his name, which stated that 'Equal volumes of all gases or vapour under the same conditions of temperature and pressure contain an equal number of molecules.' So that weighing equal volumes of gases at the same temperature and pressure should give the relative weights of their molecules. Sincehydrogen is the standard and the molecule of hydrogen is known to contain 2 atoms, the ratio between the weights of equal volumes of hydrogen and other gases, not only gives the densities of the gases, but it helps materially towards determining the number of atoms in a molecule and the consequent discovery of true atomic weights. From this, if we return for a moment to chemical symbols, we will see that a chemical formula or equation expresses certain quantitative facts. It can easily be seen now, for example, that by the equation MnO₂+4HCl=2H₂O+ MnCl₂+Cl₂ we can read that since the atomic weights of manganese, oxygen, hydrogen, and chlorine are respectively 55, 16, 1, and 35-5, 87 parts by weight of manganese dioxide unite with 146 of hydrochloric acid, giving 36 parts of water, 126 of manganouschloride, and 71 of chlorine Since in scientific work the gas. metric system is generally used, the atomic weights the numbers will be word gramme could be substituted 16,12, and 32.

Not only so, but the law of gaseous rolumes or of if the reacting substances are gases

we can tell the volumes that reacted | may be placed in either group, this volumes, the resultant 2H2+O2=2H2O represents the fact that 2 molecules of hydrogen unite with 1 of oxygen to form 2 of water; it also means that 4 parts by weight of hydrogen unite with 32 of oxygen to form 36 of water, while finally it means that 2 volumes of hydrogen unite with 1 of oxygen to give 2 of These four rules or laws, together with Avogadro's hypothesis, make up the fundamental basis of the science of C., always bearing in mind the fact that underlying all this again is the law of the conservation or indestructibility of matter. Among other principles which underlie the science may be mentioned that of valency. In the study of the science it will be noticed that one atom of chlorine and one only will unite with 1 atom of hydrogen. On the other hand an atom of oxygen requires 2 atoms of hydrogen to satisfy the conditions of its affinity for hydrogen, while carbon requires 4. All those elements which only require one atom of hydrogen for purposes of combination are said to be mono-valent elements. Those to be mono-valent elements. that require 2, di-valent, and so on

some element with which they do enter into chemical combination, and which is at the same time monovalent. One atom of sodium, for example, unites with I of chlorine, and may, therefore, be said to be monovalent. With elements that combine with hydrogen no higher combine with hydrogen as valency is shown than 4, but with other elements the valency may rise to 6, as is the case with tungsten, which requires 6 atoms of thioring to unite with 1 atom of itself. As in all the other instances difficulties arise which are beyond the scope of this article, as, for instance, the fact that measured by hydrogen the valency of phosphorus is 3, while measured by chlorine it is 5. As a general rule, however, the highest number of atoms with which 1 atom of an element will combine, is taken as representing its valency. Metals and non-metals.—Chemists

divide the whole range of matter into two great classes: metals and non- 9, 11 metals. The metals generally are saven opaque, and have surfaces which

depending on whether we consider their physical or chemical properties.

Periodic system.—So we could classify elements either as metals and non-metals, or according to their valency. But Newlands (1864) de-veloped a system, afterwards improved and established by Mendeleeff, now known as the Periodic System. It depends upon the atomic weights of the elements. It can be noticed that if a group of elements be taken which closely resemble each other in their general properties, then the atomic weight of one element will be approximately the mean of the atomic weights of the nearest before and after it, ranged in order of atomic weights: e.g. lithium, sodium, and potassium have atomic weights of 7, 23, and 39. Now $(7+39) \div 2 = 23$. Now if the elements in the various families or groups are arranged in the order of atomic weights, it will be seen that the increase in these weights in each group is practically the same. Thus fluorine, chlorine, and bromine have atomic weights of 19. 35.5, and 80, while nitrogen, phosphorus, and arsenic have atomic weights of 14, 31, and 75, and oxygen.

between the atomic weights of the first and second in each group are 16.5, 17, and 16, while between the second and third in each they are 47, 45, 47, and these numbers are approximately equal. This cannot be pure chance, and Newlands pointed out that if the elements be arranged in order of increasing atomic weights, the properties of the first seven would reappear in the next seven, so that the first and the eighth, the second and the ninth and so on, would be-long to the same group or family. This, he called the law of octaves. Mendeleeff, as we have before stated, developed this into the periodic law. This, of course, depends upon the hypothesis that the properties of elements are related to their atomic weights. The first seven elements after hydrogen are lithium, beryllium, boron, carbon, nitrogen, oxygen, fluorine, with atomic weights of 7, 9, 11, 12, 14, 16, and 19. The next

opaque, and have surfaces winch reflect light so highly that they generally spoken of as having metallic lustre. They conduct heat and electricity well, and are generally through all—and the element in the malleable and ductile. Non-metals do not possess these properties although they merge into one another, giving transitional elements which

same family. As we traverse the rows; as phosphorous trichloride or phosand pass from lithium and sodium to fluorine and chlorine, we pass from electro-positive soft white metals to electro-negative corrosive gases, while the valency increases as one passes along either row or any succeeding row from one to four and back again to one. After the second row, the next row consists of seventeen elements, seven take their right places the which are termed transitional elements, and then seven others which, while they exhibit certain likenesses to the seven preceding, can hardly be placed directly under them. These seventeen elements are known as a long period as against the short period of the sevens. From here on the periods are all long, and should consist of seventeen elements, but a large num-ber of gaps occur. These gaps represent elements which we yet have no knowledge of. The vertical columns in these rows of seven are taken and the alternate elements after the first two rows are placed together and form a family, with similar properties. Thus group one will consist of lithium, sodium, potassium, copper, rubidium, silver, casium, and gold. Of these, copper, silver, and gold form one family, and the rest fall together. This periodic table is of the utmost value in the study of inorganic C. It has aided in the true estimation of atomic weights of elements, and has added in the discovery of new ele-ments; e.g. Mendeleëfi limself pre-dicted the discovery of an element which he called eka-aluminium, and gave its properties by a study of the series and families in his table. Four rears later gallium was discovered by means of the spectroscope (as he had predicted) and justified his predictions completely. Chemical nomenclature.—If a sub-

stance is a binary compound, i.e. is composed of two different elements, then its chemical name is made up from the names of its composing elements, e.g. when hydrogen and sulphur enter into chemical combination the resultant substance is termed hydrogensulphide. Sometimes, however, the same two elements will combine together in more than one proportion. Names are then necessary to dis-tinguish one from the other. Prefixes or terminal endings are used for this purpose. Phosphorus unites either with 3 or 5 atoms of chlorine, when it is known as phosphorous or phos-phoric chloride according as there are 3 or 5 atoms of chlorine in the com-

phorus pentachloride. The latter is the more general method. Sub and proto were terms generally in use, but they are gradually falling into disuse. When oxygen is one of the two elements in the compound, the substance is known as an oxide. Some of these oxides, when combined with water, however, the table gets complex, for form acids, and are known as acidforming oxides or anhydrides. non-metallic elements except under the other two rows, while three hydrogen form these oxides, and the elements (iron, cobalt, and nickel) so-formed acids are called oxyacids. Metals give rise to oxides which form hydroxides with water, and these oxides are called basic oxides. When an acid is brought into contact with a basic oxide a salt is formed. All oxides are named after the substance with which the oxygen is united, and oxyacids are also named after the same substance. Thus carbon dioxide gives rise to carbonic acid. When a substance forms two acid-forming oxides the terms ic and ous are used to denote the one with the greater and the lesser amount of oxygen respectively. Thus sulphur trioxide forms sulphuric acid, while sulphur dioxide forms sulphurous acid. Acids used to be considered as always containing oxygen, but this view is in-correct, as can easily be seen from the fact that chlorine, fluorine, bromine, and iodine, known in C. as the halogen group, form acids when in combination with hydrogen. When acids are added to bases, salts are formed, and acids which contain more than one atom of hydrogen (all acids have, at least, one atom) can form more than one sait, for a sait is formed by the replacement of the atom or atoms of hydrogen in the acid by the metallic atoms of the base. Thus sulphuric acid (H₂SQ₁) contains 2 atoms of hydrogen, and it can give rise to two salts of any metal, for example, normal potassium sulphate and acid potassium sulphate represented by potassium sulphate represented by K₂SO₄ and KH₂SO₄. Hydrochloric acid, on the other hand, has only one atom of hydrogen in it, and can only give rise to one salt. Thus according as there are 1, 2, 3, or 4 atoms of hydrogen in an acid, it is known as mono-, di, tri-, or tetra-basic, while a normal salt is one in which all the displaceable hydrogen atoms have heen replaced by the base. been replaced by the base. Organic and inorganic chemistry.

Organic and inorganic chemistry.— There are two great divisions in the science of C., organic and inorganic. The branch which is best known is that of inorganic C., which covers the C. of all the purely mineral substances. Organic C. had to do primarily with that of substances obtained from animal or veretable sources. Now, pound. Another and perhaps better animal or vegetable sources. Now, method is that by which it is known however, it has resolved itself into

the study of the compounds of carbon, always bearing in mind the fact that many carbon compounds have no organic origin, and therefore really fall outside the scope of organic C. The fundamentals of both branches are the same, and the real reason for the division is the number of the carbon compounds and their highly complex character. It is in this realm that the graphic formula is of most service, and in its organic branch C. most nearly approaches biology. Not only so, but organic C. has been applied technically in order to produce dyes from coal tar. This industry of comparatively recent practical account

has become most important. Physical chemistry .-- Although of very recent development is now an absolute essential to the study of any branch of C. with any design. It seeks to explain processes, and to formulate laws for these processes, and is divided within itself again into electro- and thermo-C., etc. One branch of physical C. in which great strides have been made, is the study of the general pro-perties of gases. It is really as much in the realm of physics as it is in the realm of C. In this we may start from Charles' law, 'That when a gas is heated, the pressure being constant, it increases in volume to the same extent whatever the gas may be. This law is not quite accurate, in fact physical C. has found the co-officient of expansion of several of the gases. That of air is '003665, and from this the absolute temperature is stated as being -273° C. This law, together with Boylo's law, 'The volume occupied by a given weight of gas is inversely as the pressure,' gives a basis to this branch of the science. Boyle's law is not absolutely correct either. All gases except hydrogen require less An gases except hydrogen require less than this theoretical pressure to reduce it in volume, while hydrogen requires more than the theoretical pressure to do so. This deviation is explained by the kinetic theory of gases, which regards gases or vapour as molecules held together by the reallest possible force of attraction. smallest possible force of attraction. These molecules are supposed as in a state of violent motion, moving in straight lines until they hit against other molecules or the sides of the containing vessel, when they rebound or continue in another direction. The energy remains the same with constant temperature, but any increase in temperature results in an increase of energy or speed, a decrease of temperature, naturally causing the opposite. The pressure of the gas is the effect of this bombardment of

square of its velocity. If the confining space be reduced, the pressure is increased because the number of impacts is increased. Thus if the space be reduced one-half the impacts, and consequently the pressure. is doubled. This, of course, is Boyle's law. Again, heating a gas causes the temperature to rise, and since by Avogadro's hypothesis equal volumes of gases contain the same number of molecules, the increase in kinetic energy would be the same in any gas subjected to the same range of temperature. Now since molecules of different gases have different weights, and since the pressures and consequently the energies of all gases are the same at the same temperature, and since the energy is 1mv2. where m = mass of a molecule and v =velocity, it follows that the velocities of molecules of different gases must Calculations bring these velocities out as being proportional to the inverse square roots of their

mown fact liffuse, i.e. partitions

l will mix. Thus if an explosive mixture of hydrogen and oxygen be passed through porous tubes, then, by the time they reach the far end, the hydrogen will have diffused so much that a glowing splinter will reignite, the gas being mainly oxygen. Graham established a law which took note of the wellknown fact that light gases diffuse more rapidly than heavy gases. 'His law is: 'The relative velocities of diffusion of any two gases are inversely as the square roots of their densities. The same result was arrived at, as shown above, by a study of the kinetic theory of gases. From this it will be seen that while Charles' and Boyle's laws are upheld by this theory. yet, since molecules are not mathematical points, and since impact occupies time, and that, further, since there must be some slight attraction between the molecules themselves. then there must be some deviations. Furthermore, there is one point at which both laws absolutely break down. If a gas be cooled from 0° C. to 100 c.c. of it should be reduced to 96.4 c.c. But in the case of sulphur dioxide, instead of occupying 96.4 c.c. a liquid will have been formed and only a few c.c. of gas will remain. This, of course, is a development not accounted for in the law. Similarly by Boyle's law 100 c.c. of a gas at the opposite. The pressure of the gas standard pressure should occupy is the effect of this bombardment of 28 c.c. at a pressure of 4 further the sides of the vessels, and is proportionate to the sum of ½ mass of pressure of 4 atmospheres, sulphur each_molecule multiplied by the dioxide gas breaks down into a liquid.

And it is in this branch of the lique- vanic battery is formed if strips of faction of gases that physical science has perhaps made greatest strides. Chemical apparatus has been brought to such a pitch that temperatures approaching absolute temperature can be reached. All gases now with the exception of hydrogen can be liquefied when subjected to certain conditions of temperature and pressure, which vary for different gases. North-more in 1806 was the first to liquely gases, and the gas that he used was chlorine. Faraday was the first, how-ever, to recognise the fact that it was liquid chlorine. An interesting application of this subject was the liquefaction of helium which requires the lowest temperatures. This gas, together with argon, krypton, and xenon, forms a remarkable group. They occur in the atmosphere and in certain rare metallic ores, and their discovery is chiefly Radium. due to Sir Wm. Ramsay. which has opened up an entirely new field in C., also emanates helium rays, which can be collected. A further department of physical C. which has received great attention is that of the theory of solutions. It has been established that the pressure exerted by a substance in dilute solution (its osmotic pressure) is the same as would be exerted by the same amount of the substance if it existed as gas, and occupied the same volume at the same temperature. Further the laws relating to gaseous pressure are similar to those relating to osmotic pressure, and diffusion of dissolved substances can be compared with the diffusion of gases, although it is a much slower process. This theory involves the theories connected with electrolysis, for solutions of some substances act in such a manner that cules of the dissolved unite in solution to form

their resultant action can only be explained on the hypothesis that their molecules dissociate into ions. Dissociation is a term used of reversible reactions. Thus chalk on heating will split up into lime and carbon dioxide. But the lime and the carbon dioxide can reunite to That fact may be exform chalk. pressed thus: CaCO2 CaO+CO2.

Decomposition on the other hand refers only to reactions which only take place in one way. As e.g., 2NH,= N₂+3H₂ signifies that ammonia on heating is decomposed into nitrogen and hydrogen, and not that nitrogen and hydrogen recombine to form ammonia. The conception of ions in C. is a branch of electrolysis. A gal- chloride, or form molecules of sodium

zinc and platinum be placed in dilute sulphuric acid, always provided that a metal wire outside joins the plates. The zinc dissolves in the acid and bubbles of hydrogen are evolved at the platinum plate, while an electric current will pass along the wire. The liquid through which the current must pass is known as the electrolyte. and the poles in the electrolyte are known as electrodes, the negative being the cathode, and the positive the anode. It will be sufficient for the purposes of this article to mention that the theory of electrolytic dissociation at present held is, that the passage of the electricity along the metal conductors and through the electrolyte may be compared to conduction and convection respec-tively. If an ageous solution of copper sulphate be electrolysed the primary products are copper Cu, and the radical SO. The copper is deposited on the negative electrode, and the SO, group passes to the positive pole where it is decomposed by the water into oxygen, which is liberated, and sulphuric acid. Thus SO₄+H₂O=H₂SO₄+O. The primary products of electrolysis, e.g. in this case copper and SO₄, are known as ions. Those which proceed to the positive pole are negatively charged, and vice versa. Among electronegative ions may be named fluorine, chlorine, bromine, and acidic radicals such as SO, while electropositive ions include hydrogen and the metals. Among the laws of electrolysis may be mentioned Faraday's, which says that if the same quantity of electricity be passed through different electrolytes, then the ratio between the liberated products of the electrolysis it is necessary to suppose that mole- is the same as that between their lents. It used to be he electricity caused

molecular structures,
of the electrolyte case of certain acids, bases and salts, into ions, but it has been shown that electricity travels as freely through electrolytes as along metals, and that consequently work is not done. Arrhenius (1887) proposed that some of the molecules of an electrolyte are always in a state of dissociation. A development of this theory leads to the conclusion that a solution, say, of sodium chloride has sodium and chlorine existing in the free state within the solution. This goes against all preconceived ideas, particularly as soduim causes immediate chemical action if brought into contact with water. To support this theory, however, they must be in such a state and highly charged with electricity. Whenever they lose their charges they either reunite into sodium

and chlorine and assert their usual cloth-worker born at Treuenbrietzen properties. It is at this point that in Brandenburg, followed his father's electrolysis merges into the theory of solution. Thermo C. is concerned with the thermal changes which accompany chemical changes. Determinations in this branch of the science are made by means of calorimeters in which the heat that is liberated in chemical action is transferred to definite volumes of water, and its application chiefly lies in its efficacy for determining economic commercial processes. Finally, it may be stated that a knowledge of C. is evidently essential in many walks of life. be the surgery, the it whether kitchen, the dairy, the farm, the factory, the mine, or the great iron and steel industries. The arts and, of course, the great chemical and dye works are dependent upon it, and it stands out as the first study in any scheme of technical education. Bibliograp

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Chemnitz, an important manufacturing tn. of Saxony, situated in a fertile valley at the base of the Erzgebirge, about 45 m. S.W. by rail from It is the chief industrial town of the kingdom, the most important manufactures being cottons, woollens, silks, and leather goods. Locomotives, machinery, and agricultural tools are made in great quantities. There are many buildings of interest—the Old Rathaus in the Haupt-Markt, the Newmarkt, the church of St. James, etc. There are fine technical schools, as well as schools of engineering, agriculture, and companyers. The tarm was reacted. and commerce. The town was created a free imperial city in 1125, when EmperorLothairefounded in it a Benedictine monastery. It received municipal rights in 1494. The town suffered during the Thirty Years' War, but later became a cotton manufacturing centre. Pop. (1905) 244,927.
Chemnitz, Martin (1522–86), a

Chemnitz, Martin (1522-86), a American geol staunch Lutheran divine, son of a the Devonian.

trade, but soon abandoned it, and became a student at the university of Frankfort-on-Oder, thence to Wittenberg, where he came under the in-fluence of both Luther and Melancthon. He soon gained attention as a brilliant orator and able controversialist. He was bitterly opposed to the Jesuits, and inveighed against them in many pamphlets, chief amongst which are his Theologia Jesuitorum pracipua capita and his Examen concilii Tridentini . . . He

hisıdson of Martin (d. 1586). He served as an officer in the service of Sweden during the Thirty Years' War, becoming historiographer to Queen Christina in 1644, councillor in 1675 His Hippolytus a Lapide—Dissertatio de ratione status in imperio nostro

logis-

romano-germe C. also wrote in Deutschlar

in Deuscain (new edition De Ratione was answered by an anonymous writer, 1657; by Bruggeman, 1667; and Boecler, 1674. It was translated into French by de Chastelet, 1712; by Formey, 1762. See Meyer, Konversations. Lexikon. iii.

Chemitta a term sometimes used

Chemnitzia, a term sometimes used for Pseudomelania, a large genus of marine gastropod molluscs which resemble the elongated fresh-water Mclania. The species occur fossil in the Trias and Jura and less frequently in Cretaceous and Eocene.

Chemosh (god of Moab), the national deity of the Moabites and was designated by the Israelites as the 'abomination of the Moabites.'
The Moabites were also called the 'children of Chemosh' (The state) 'children of Chemosh' (Jer. xlviii.). This god's name frequently occurs in the O.T., and is found engraved on The sacrifices the Moabite stone. sometimes consisted of human victims. Solomon is guilty of having idelised this deity by building an altar to him, nor was it pulled down until Josiah's accession.

Chemulpo, also known as Jenchuan, one of the treaty ports, of which there are three. It lies on the W. coast of Korea, a distance of 25 m. from the capital, Scoul. There is a steamboat service between C. and Soul. There are both Chinese and Japanese in-habitants. This port was open to foreign trade in 1883. The principal exports are beans, hides, and rice.

Chemung, the name given by American geologists to a division of

Chenab River, Punjab. This river, together with the Sutlej, Beas, Ravi, and Jehlum, forms the R. Punjaud or Panjnad (Five Waters), which finally flows into the Indus. When the C. flows into the Indus. reaches the Puninud reaches the Punjud district, it attains to a breadth of 600 ft. It takes its rise in Lahul at an altitude of nearly 14,000 ft. It is 590 m. long. Chen-Can-fu, a tn. of Kwangsi, a

prov. in S. China.

Chen-Chou-fu, or Chin-Chou-fu (Shinchow): 1. A tn. of Central China, Hunan prov., on the Yuen-kiang, trib. of the Lei-kiang, 169 m. from Changsha, 110 m. from L. Tung-ting-hu. 2. Also a city of China, Honan prov.,

80 m. from Kai-fung.

Chênedollé, Charles Julien Lioult de (1769-1833), a French poet who took an active part in the French Revolution under Condé. His principal worksare Géniede L'Homme, 1807, and Etudes Poétiques, 1820. He came into contact with many interesting personages in the course of his eventful life, amongst whom may be mentioned the writers Madame de Staël and Chateaubriand. He belonged to the romantic school of poets, and his works were edited by Sainte-Beuve in 1864, who has also paid tribute to his memory in his Chateaubriand et son groupe.

Chénée, a tn. situated at the conjunction of the Ourthe and Vesdres

the prov. of Liege, Belgium.
Chenery, Thomas (1826-84), a distinguished English scholar, also tinguished English scholar, also editor of the Times, which appointment he received in 1877. He was a student of Caius College, Cambridge, and served in the Crimea as war correspondent to the Times. He had a marvellous knowledge of Arabic and Hebrew, and was one of those ap-

pointed to revise the O.T.

Chenevix, Richard (1774-1830), an Irish writer, chemist, and mineralogist, of French parentage, F.R.S. of London and Edinburgh. He was a Copley medalist in 1803. Among his scientific works are: Chemical Nomentalist (1998) clature, 1802; Observations in Mineralogical Systems, 1808. He also wrote the comedy Mantuan Revels; the tragedy Henry VII., 1812; Essay tragedy Henry VII., 1812; Essay on Natural Character (2 vols.), 1830; papers on palladium, nickel, and platina; Leonora, and other poems. See Annales de Chimie, 1798; Gent. Mag., i., 1830; Guerard, Dict. Bibliograph.

Cheng-te-iu, also called Jehol, in the prov. of Pechili, China, 115 m. from its cap., Peking; this place is the summer resort of the emperor and

contains many gardens and temples. Cheng-ting-fu, a tn. in the prov. of Chili in the N. of China, and is ap-proachedviå Hankowor Peking by rail.

Cheng-tu-fu, cap. of prov. of Sze-. chwan in China, situated in a fertile plain watered by the Min, a trib. of the Yang-tsze-kiang. The town is most flourishing, carrying on an extensive silk trade; the natives are very cultured and polished in manner Thibet supplies the imports, fur and medicines, in exchange for C.'s exports of tea, cotton, and silk.

Cheng-yang-kuan, in the prov. of Anhui, China; noted for its market.

Chénier, André-Marie (1762-94), a French poet who fell a victim to the French Revolution. He was educated at the Parisien Collège de Navarre, and began to rhyme when he was only sixteen. He held at one time a commission in the army, but soon threw it up and devoted himself to litera-ture. He wrote many idylls and elegies, which show his powers as poet. Singularly chaste in style, he approached the Greeks in their powers of eloquence and choice selection of words. He was largely influenced by Milton, whose classic style he sought to imitate. In 1787 he accepted a secretaryship in England, but gave up the appointment after three years, and returned to France, where he threw in his lot with the Moderate party against the extreme methods adopted by the revolution-His Avis aux Français sur leurs véritables Ennemis drew upon him the suspicion of the Nationalists, and he paid for his outspokenness later on, when he was apprehended and finally guillotined in 1794. His most famous idylls are Le Mendiant, L'Aveugle, and Le jeune malade. His later works, L'Invention and Hermès, betray a deeper skill in literary workmanship. His Poésies Lyriques were

published after his death in 1819. Chénier, Marie Joseph de (1764-1811), brother of Andre, was a Jacobin, and served in the legislative assembly for a period of thirty years. He was both a poet and dramatist with a large output of work. C. was a keen politician with Democratic principles, which accounts largely for the popularity of his tragedies, chief amongst which are his Charles XII., Henry VIII., La Mort de Calas Crimoléon. He became a member of the convention, and was on the council of 500. He was distinguished for his satires, amongst which may be mentioned his Epitre à Voltaire.

Chenonceaux, a vil. in the dept. of Indre-et-Loire, situated in Central France and watered by the R. Cher. Its château, situated on the right bank, is of great historical interest. It was built in 1515 in Renaissance style, and passed through many hands until it was eventually sold as private property. Claude Dupin, celebrated

Chenopodiaceæ, a fairly large genus of Dicotyledons, contains numerous species used either for culinary purposes or for the manufacture of soda; spinach, beet, orach, goose-foot, sea-blite, and salt-wort are examples of the order. All are characterised by their salt-loving tendencies, and frequent Most of the plants are

with dense inflorescences There is usually flowers. persistent perianth of sepa

one to five in number, the stamens typically equal the perianth-leaves in number, the overy is superior and unilocular with a single campylotropous, basal ovule; there are no stipules, and the fruit is a nut or an

achene.

Chenopodium, an important genus of Chenopodiacee, contains numerous plants growing in a temperate climate, and many of them are en-dowed with extraordinary names, e.g. fat hen, lamb's quarters. There are nine British species, usually known as gooseloot, which grow in waste highest tides in the British Isles, the places as weeds; they are insipid and water sometimes rising fifty feet of little value, but the leaves and above low level. Some shipbuilding is young shoots?

Ch.bonus -Engl Henry, Engl spinach, is a

which the shoots are eaten like asparagus. Ch. olidum and Ch. vulvaria are both known as the stinking goosefoot, and Ch. album is the white or common goosefoot, an annual plant which eats like spinach. Quinoa, the celebrated quinoa Peru, is an important food-plant of S. America; it is grown on land where neither barley nor rye will ripen, and the seeds are used much as is rice in Ch. anthelminticum (or ambrosioides), the worm-seed or Mexican tea, has an aromatic odour; in medicine it forms a well-known vermifuge. and as an article of diet it takes the place of tea.

Chen-yuan-iu, a tn. in the prov. of Kweichou, China, 100 m. E.N.E. of the capital, Kweiyangfu. It is noted for its gold and copper mines. Cheops, King of Memphis, Egypt,

and reigned second in the fourth dynasty of Manetho; celebrated for being the builder of the Great Pyramid. This colossal sepulchre was built at the cost of much human suffering, and at enormous expense.

for his hospitality, owned it for a was introduced to the court of James IV., and was trained as a clerk and writer under Panter, the royal secretary. C. and Andrew Myllar were granted the sole patent to print books in Scotland (1507). They set up their printing-press (the first in Scotland) at the foot of Blackfriars Wynd in the Cowgate, Edinburgh. Two of their publications remain, one, the first book

> Introduction of the 1827; Dickson, Introduction of Art of Printing into Scotland, 1885.

> Chepstow, a scaport tn. of Mon-mouthshire on the R. Wye, near its junction with the Severn. The town lies on a slope between steep cliffs, is surrounded by beautiful scenery. It possesses the ruins of a castle which sustained several sieges during the Great Rebellion, and in its neighbourhood are the remains of the famous Tintern Abbey. The Wye is crossed near here by Brunel's tubular suspension bridge, and here occur the highest tides in the British Isles, the water sometimes rising fifty feet

iron, coal, cider, and mill-Pop. (1911) 2953.

ue, a money-order on a banker drawn out by a person who has money in the bank, and payable on presentment by the person to whom the C. is written out or by the bearer.' The rules with regard to a bill of exchange (q.v.), defined in the Bill of Exchange Act, 1882, are also applicable to Cs. A C. must bear a penny stainp, and must be signed by the drawer. Before payment, it must be indorsed on the back by the recipient. It must be presented within a reasonable time. A banker is liable for a forgery of the drawer's signature, but is not held responsible in case of a forged indorsement. He is bound to pay the C. on demand, except in cases when the drawer has previously given notice to him not to pay on his account, or when the drawer has died or committed an act of bankruptcy. In England Cs. may be crossed in order to lessen the risk of loss by theft or fraud. A crossed C. has two parallel lines drawn across it. in which may be written a particular banker's name, or merely the words '& Co.' In the former case, it is said One thousand men were employed to be specially crossed, and will only every three months in erecting this stupendous monument which was not completed till ten years after.

Chepman, Walter (c. 1473-1538), a lf the words 'not negotiable' are printer and merchant of Edinburgh, added, the person taking the cheque one of the first Scottish printers. He does not have and cannot give a

better title to it than that of the in area with a minimum depth of person from whom he took it. Cs. water of 30 ft. Adjoining are dry are returned, after paymen banker to the person who rds in France. The bay

of a proper receipt.

Cher, a Fr. riv. about 220 m. long, flowing generally N.W.. and joining the Loire about 12 m. below Tours. It is navigable from Vierzon. The river gives its name to the central department of France. The climate of the department is temperate; the surface generally level and well wooded; the soil fertile and pro-ductive of corn, wine, fruit, hemp, and Horses, sheep, and cattle are reared, and bee-keeping is a popular industry. There are iron and coal mines, and quarries of marble. The chief manufactures are woollen goods. cuttery, porcelain, brick, and glass, but the chief occupations are agriculture. C. is divided into three arrondissements: Bourges, Saint Amand, and Sancerre. The capital is Bourges. Area 3770 sq. m.; pop. (1891) 359,276; (1906) 343,484.

Cherasco, this com. lies in Cuneo. a southern prov. of Piedmont, which is situated N.W. of Italy. The principal industry is silk-weaving. One of the towns was embroiled in the Napoleonic wars, when its fortifications of the towns was the original of the property of the control of the towns was the original of the property of the control of cations were razed to the ground by French troops in 1801.

Cherbourg, a fortified seaport tn. and naval station in the dept. of Manche, France, situated at the head of the peninsula of Cotentin, 85 m. W. of Havre. It has tribunals of the first class, and is the seat of a sub-prefecture. It is the headquarters of

of the five naval arrondissements . France, and possesses a lycée an naval school. Its principal indus... is centred in the works of the dockyard, but there are manufactures of hosiery and lace, chemicals and leather, as well as sugar and salt refineries, sawing and flour-mills. C. is supposed to occupy a Roman site, and to be a corruption of Cæsaris Burgum. In the 11th century, under Burgum. In the 11th century, under the name of Carusbar, it was a favourite resort of the Norman kings of England. In 1686 Vauban planned the harbour-works, which were con-tinued under Napoleon I., but not finally completed until 1856, when they were formally inaugurated by Napoleon III. in the presence of Queen Victoria. Thirty years later the government expended 49,000,000 francs on the construction of fresh francs on the construction of fresh works. The commercial and naval ports are quite distinct from each other. The latter consists of three basins cut out of the rock, 55 acres

come of the largest ship-

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drew them, and, as every doned with the receiver's name, it is 'digue,' or breakwater, 2; m. from the evidence of payment in the absence harbour, over 2 m. long. 650 ft. wide harbour, over 2 m. long, 650 ft. wide at its base, and 30 ft. at its summit. The passages for vessels on the E. and W. of the 'digue' are protected by batteries, the chief being Fort National with 100 guns on the Ile de Pelée, and there is a fort in the centre of the breakwater. A series of coast redoubts and large fortifications

reducints and large fortifications behind this outer ring of defence render C. almost impregnable from the sea. Pop. (1906) 35.710.

Cherbuliez, André (1795-1874), son of Abraham C., a well-to-do bookseller, born at Geneva. He took up a scholastic career, and received the appointments successively of the professorship of Latin and of ancient literature at the Genevan Academy.

He wrote De Libro Job.

Cherbuliez, Antoine Elisée (1797-1869), a famous political economist, and professor of law at Geneva. He was opposed to the Socialists, and wrote among other pamphlets, De la Démocratie en Suisse, 1843; and Précis de la Science Economique, 1862.

Cherbuliez, Joël (1806-70), followed

cherbuliez, Joei (1805-70), followed his father's trade of bookseller, and edited the Rerue Critique.

Cherbuliez, Victor (1829-99), son of André C., and distinguished for his interesting works of fiction. He was born at Geneva, and studied philosophy, philology, and mathematics, visiting the following places in the course of his studies viz Peris Rone. course of his studies, viz. Paris, Bonn. and Berlin. He was first a teacher, and

Brohl et Cie, 1877; Noirs et Rouges, 1880; and Le Secret du Précepteur, 1873, most of which appeared in the Revue des Deux Mondes. He also contri-buted political and scrious articles, such as L'Art et La Nature, and L'Espagne Politique (1874). His works are very popular in other lands.

Cherchell, a seaport about 55 m. distant from Algiers in Algeria, with many buildings of ancient historical interest, proving the existence of previous towns on the same site.

Cheremisses, a Finnish race settled in some parts of Eastern Russia. It is very exclusive, and is composed of two different types, some being fair and others being very dark. Its religion is of a mixed character, elements of Christianity being mingled with Mohammedanism.

Cherethites and Pelethites, these two tribes formed the royal body-

guard of King David, and were probably Philistines. The Gittites, who bably Philistines. The Gittites, who with these two other tribes in serving Soudan, 1882-88. C. was governor as a protection to the king. It has been suggested that C. is another form of Carites or Cretans, for it is form of Carites or Cretans, for it is from of Carites were particularly loyal to David in all his manifold cangers. Proceeding further along in scripture, the officers of the Carites were instrumental in bringing about Athalia's downfall, and in government of the Ukraine (S.W. or covernment of the Ukraine (S.W. or covernme ing about Athalia's downfall, and in making Joash king.

Cherhill, a parish in the co. of Wiltshire in England, lying 12 m. S.W. of Swindon. The figure of a horseman is sculptured out on one of the slopes of the chalky hills. Pop. (1911) 231. Cheribon, a residency possessing a seaport of that name in Java, East

Cherimoyer, or Cherimolia, the edible fruit of a Peruvian downy-leaved species of Anonacce closely allied to the custard-apple of the W. Indies. The fruit is obtained from Anona Cherimolia, and is much esteemed by the people of the western parts of S. America.

Cheriton, a parish of E. Kent, England, 3 m. N.W. of Folkestone, of which it may be said to form a

suburb. Pop. (1911) 7576.

Cherkasi, or Cherkasy (Polish Czerkasy), a tn. of Russia, in the government of Kiev. It is situated on the r. b. of the river Dnieper, 96 m. S.E. of Kiev. It was an important town of the Ukraine, under Polish rule, till 1618, the year of the revolt of Chmielnicki. In 1795 it was annexed by Russia. Agriculture is the chief industry; there are distilleries, and manufactures of sugar and tobacco. and tobacco.

Cherkask, or Cherkasskaya, a small tn. of Russia, situated on the river Don, 18 m. S. of Novo-Cherkassk. Pop. 5000.

Cherleria, Cherleria, a genus of Caryophyl-lacea, usually included in Arenaria, contains a single species in Britain. This is the cyphel, or C. sedoides of Linnaus; the plant is Alpine, and now bears the name Arenaria Cherleria.

Chermside, Major-General Sir Herbert Charles (b. 1850), English soldier, born at Wilton, and educated at Eton. He entered the army, 1868, becoming C. are considered the most cirilised lieutenant of Royal Engineers, 1870, of all N. American Indians. Many of colonel in 1887, and finally major, them have become Christians; they general, 1898. He was military athave a written alphabet of eighty-five

1900. C. became governor of Queensland, 1901, resigning office in 1904. He retired in 1907.
Chernigov, or Tchernigov: 1. A government of the Ukraine (S.W. or

government of the Chraine (s.W. or about 20,233 sq. m. The country is level, but there is higher land near the Dnieper and in the S.W. Agriculture and cattle grazing are two important industries, and there is a good trade in timber, hemp, flax, tobacco, honey, and wax. Fruit is also grown. Its manufactures are the strong decreased the terror and the Indies. The district is very fertile, is also grown. Its manufactures are having an extensive trade in coffee, linen, glass, and beet sugar, and the cotton, indigo, and teakwood.

Cherikov, one of the eleven dista. In the government of Mohiler, N.W. archiepiscopal see in S.W. Russia, and situated on a tributary capital of the government of the Russia, and situated on a tributary capital of the government of the of the river Dnieper.

Cherimoyer, or Cherimolia, the Kiev, near the Desna, a tributary of edible fruit of a Peruvian downy-the Dneiper. There are extensive factories for the making of candles, soap, bricks, carriages, and cables, and there is also a brewery. The chief trade is in salt, sugar, cereals, stone, and wood. Interesting excavations were carried on near by be-

tween the years 1873-7. Pop. 27,000. Cherokee, in Iowa, U.S.A., on the Little Sioux R., and 50 m. from Sioux City. Noted for its medicinal springs. Pop. 4000.

Cherokees (native Tsalagi, cave people), a tribe of N. American Indians of the Appalachian stock, numbering (1906) about 26,000. They formerly possessed a large tract of land on either side of the Southern Appalachian Mts., which they cultivated as excellent and prosperous farmers. They sided with the English prosper of the distract of th in most of the disputes between the European colonists and with the Royalist party in the revolutionary war. The failure of the Royalist party led to their subjugation by the new republic and the loss of a large part of their territory. The increasing number of white settlers led to dis-putes with the original owners of the land, and those who had not already moved were driven to their present position in the N.E. corner of Indian territory W. of the Mississippi, by General Winfield Scott in 1838. A few still survive in N. Carolina. C. are considered the most civilised of all N. American Indians. Many of

Guess, or Sequoyah, a half-breed. Until 1906, when tribal rule virtually ceased, they had a constitutional government, consisting of an elected chief, a senate, and a house of repre-sentatives. Their capital is Tahlequah.

Cherra Punji, a vil. in E. Bengal and Assam, India, in Khasi Hills. It has the heaviest known annual rainfall in the world, the average for twenty-five years being nearly 500

in. per annum.

Cherry, the name applied popularly to Cerasus, a sub-genus of the rosaceous genus Prunus, to which belong the plum, apricot, almond, sloe, and other well-known fruit-bearing trees. The C. trees differ from the plum trees very slightly, and there is little to distinguish them from one another beyond the folding of the leaves in the beyond the loading of the leaves in the bud—in the C. they are flat, in the plum rolled up. The fruit in both cases is stony and is termed technically a drupe. From early times the C. has been cultivated for its edible C. has been contributed for its entitle fruit and Lucullus, the epicure, is said to have brought it into Europe. C. (or P.) Avium, the wild C., gean or hedge-berry, and C. vulgaris (or P. Cerasus), the common dwarf or Morello C., are the two species from which all the British varieties are which all the British varieties are believed to have been derived. The former is a native of W. Asia and the woods of Europe, while the latter acquires a very large size in the woods of Asia Minor. C. chamacerasus, the ground-C., a dwarf species, never rising above 3 or 4 ft. high, is common to Lower Austria. Hungary and to Lower Austria, Hungary, and Siberia; C. nigra, the black American C. is a handsome tree with loose umbels of pinkish flowers; C. serumbels of pinkish flowers; C. ser-rulata, the fine-toothed C., is a native of China, and in our gardens bears double flowers; C. depressa, the sand C., grows well in N. America, and in Britain is a handsome, but short-lived bush; C. prostrata, the spread-ing C., is a small prostrate bush which brightens the rocks of Dalmatia, Cardia and Asia Minor with its nine brightens the rocks of Danmana, Candia, and Asia Minor with its pink blossoms; C. (or P.) Japonica, the Japan C., is a beautiful plant with double flowers which appear in our country in March. In all the above species of true Cs. the leaves come and that they the flowers but in the out later than the flowers, but in the bird Cs. the racemes of flowers appear after or at the same time as the leaves. of these may be mentioned C. Mahaleb, the Mahaleb or perfumed C., a sweet-smelling shrub with a bitter and nauseous fruit; C. Padus, the common bird C., a species which Of these may be mentioned C. are called hornstone.

Mahaleb, the Mahaleb or perfumed.

C., a sweet-smelling shrub with a bitter and nauseous fruit; C. Padus, London. The river is crossed here by the common bird C., a species which grows wild in the woods and hedges the remains of a famous abbey, in of Central Europe; C. Virginiana, which Henry VI. was buried, and an the choke C., a large tree with shining endowed charity school. Its chief deciduous leaves, used in cabinet-trade is in mait and flour, and in

characters invented in 1821 by George | making in N. America ; C. Capollim, the Capollim or Mexican which has a pleasant-smelling fruit, and the bark is reputed to be a valuable febrifuge. The C. laurels are allied to the bird Cs. and true Cs., and are distinguished from them by having evergreen leaves and long racemes of flowers which appear with the leaves. C. Caroliniana, the over-green or Carolina C. laurel, is an ornamental tree with poisonous leaves; C. Laurocerasus, the common or broad-leaved C. laurel, is a hardy evergreen much cultivated in British shrubberies and is remarkable for the amount of hydrocyanic acid secreted in its leaves; C. Lusitanica, the Portugal laurel, a native of Portugal and the Canaries, flourishes Britain, where it is readily propagated from its abundant fruit.

Cherso, a long and narrow island of Austria in the Gulf of Quernero. Sheep are pastured there, and its chief products are wines and fruit. It covers an area of 127 sq. m. About half the pop. live in the chief (cathedral) town of Cherso on the W. side, the chief industries there being fishing and boat-building. Pop. of entire place

10,000.

10,000.
Cherson, see KHERSON.
Cherson, see KHERSON.
Chersonesus (Gk. Χερσόνησος, a continent island, i.e. a peninsula), the ancient name of several peninsulas in Europe and Asia, the most important being C. Taurica, or Scythica (Crimea).
C. Cimbrica (Jutland), C. Thracia (Gallipoli), C. Aurea (Malay). By the C. the last is generally meant. See CRDIFA, GALLIPOLI, JUTLAND, and MALAY. MALAY.

Chert, a variety of quartz which occurs in limestone in much the same way as flints occur in chalk, though it occurs in tabular masses rather than in nodules. Its formation is due to what is called concretion; that is to say, silica derived from sponges passed into solution, then filtered down through the calcareous ooze, and was reprecipitated when conditions were suitable for the deposition of the silica and the solution of the limestone. Thus in certain localities in the limestone the calcium carbonate has given place to silica. C. occurs in a variety of colours (grey, white, red, vellow and hown) is white, red, yellow, and brown), is coarser than flint, and is generally more brittle. The coarser varieties are called hornstone.

Chervil

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Charles James Fox lived at St. Anne's Hill, a mile away, and the poet Cowley died there. Pop. (1911) 13,816.

Cherubim, the plural of the Hebrew wordcherub (kerūb). It is very difficult to understand clearly what C. were supposed to be like, as there are such a variety of notions. According to parts of the scriptures they are

They are supposed to represent the guardians of the house of God, and they symbolise His eternal presence. They are also supposed to be the guards of Paradise, and sometimes supposed to be the supernatural steeds upon which the Almighty sets out to deal with mortal affairs. In a poetic theophany (Ps. xviii. 10) we see 'upon a cherub' parallel to upon the wings of the wind.' From this one might gather that they were sometimes looked upon as a kind of bird, or possibly as a stormcloud, which gather with the winds. There have always been conflicting ideas as to what the C. are like, for according to the Revelations of St. John they had four faces. Other myths set out a bird-like form, while another version of them is a winged animal type. Probably this latter conception was derived from the drawings of the winged bulls and lions seen on the ancient Assyrian and Babylonian tombs and houses. If one studies the scriptural description of these heavenly bodies, we can but notice that the popular idea of a cherub being the winged bodyless head of a young child is utterly without foundation. The only similarity is that these heads are always depicted as coming out of clouds, but the faces never correspond with the old notion that they were spirits of the storm-cloud. At all events the C. are now used to adorn secular places even more than religious houses, for one often sees them in the ceilings of public halls. Seemingly they have lost their attraction in the eyes of the religious.

Cherubini, Maria Luigi Carlo Zenobi Salvador (1760-1842), born at Florence, the son of the accompanist at the Pergola Theatre. He began to study composition at the age of nine under the Felicis, and, after their deaths under Bizzari and Castrucci. In 1773 he composed a Mass, and by 1777 his growing success as a writer of church music led to his being sent to Bologna to study under Sarti, who not only taught him well but gave him minor parts of his own scores to finish. From 1780 for fourteen years

garden produce for the London mar- dramatic composition occupied AC. In 1784 he visited London, and produced La Finta Principessa, and Giulio Sabino. In 1788 he produced Ifigenia in Aulis at Turin, but from 1786 Paris was his home, and he produced there Demophon, Lodoiska, Elisa, Médée, Les Deux Journées, Anacreon. In 1801 he produced Faniska at the Imperial Theatre Vienna. In 1815 he composed an overture and a symphony for the Philharmonic Society, London. In 1833 he produced his last work for the theatre, Ali Baba. Henceforward he devoted himself to church music, and his Requiem in D Minor (1836) is one of his finest works. As a composer he is, with Gluck, the chief glory of the French classical music, but as a teacher his influence was harmful in restricting his pupils by the narrow rules of an earlier age. Beethoven greatly admired him, and was in-fluenced by his Deux Journées in his opera of Fidelio, but C. neither under-stood nor appreciated Beethoven and his intolerance of fixed rules. He said of him, after meeting him in Vienna (1861), 'II était toujours brusque,' and of his music, 'it makes msnezze.' Mendelssohn was the only young contemporary whom he openly praised.

Chéruel, Pierre Adolphe (1809-91), a French historian, born at Rouen, He became professor of history at Rouen College and then principal of the normal school in the same place in 1849. In 1866 he was made pro-fessor of history at the Strassburg Academy, and in 1874 he occupied the same position in Poitiers. His writings are very reliable, and contain much that is of interest. His principal books are Dictionnaire Historique des Institutions, Mœurs, et Coutumes de la France, a work of two volumes. Then his Histoire de France pendant la Minorité de Louis XIV. is in four volumes. He also edited the Lettres du Cardinal Macarin (six volumes) and the Mémoires de St. Simon and the Mémoires de Mdlle. de Montpensier.

Cherusci, an anct. German tribe occupying the basin of the Weser, N. of the Harz Forest. They were under Roman rule in 11-9 B.C., and are mentioned by Cæsar. In A.D. 9 Arminius, a prince of the C., revolted and destroyed the Roman report and destroyed the Roman general Quintilius Varus and his army, and in vain Rome tried again to subdue them. Their prestige was wrested from them towards the end of the rom them cowards the end of the list century A.D. by their neighbours, the Chatti, and their territory was later occupied by the Saxons. (Tacitus, Annals, 1, 2, 11, 12, 13.) Chervil, the name of several species of umbelliferous plants, distributed

throughout various genera. Scandix his invention. or Anthriscus cerefolium is a little-cultivated annual, a native of S. Europe, with slightly aromatic leaves at Bath, 1732. which are used in soups and salads. which are used in souls and salus. Authriscus sylvestris is a common weed found in woods. Charophyllum temulentum, the rough C., is a species occurring wild in Britain, and Ch. tuberosum, the turnip-rooted C., is grown for its carrot-like roots which are eaten after the manner of carrots. S. pecten Veneris, the Venus comb, or shepherd's needle, is a European plant which bears very large fruit, and their dehiscence is by a powerful jerk.

Cherville, Gaspard Georges Pescow, Marquis de (1821-98), was born at He was a collaborator of Chartres. Dumas père, but he wrote independently a number of books on country life and sport. He also wrote Au Village, Légendes et Croquis Rus-tiques in 1887, and Les Chiens et les

Chats in 1888.

Cherwell, River, a trib. of the Thames. It rises in the S.W. of Northamptonshire and flows S. for 30 m. through Oxfordshire, joining the main

stream at Oxford.

Chesapeake Bay, in Maryland and Virginia, and dividing the former into two parts, is the largest inlet on the Eastern coast of the United States, extending 200 m., with a width of from 4 to 40 m., from the mouth of the Susquehanna R. southward to Hampton Roads. Its entrance has Hampton Roads. Its entrance has on its N. side Cape Charles, and on the S., Cape Henry. 12 m. apart. The land on either side of the inlet is greatly indented, and receives the rivers Susquehanna, Potomac, Rappahannock, and York on the W., and James on the S.W., all navigable rivers. The water is so deep that the ally washed by the ocean. Cheselden. William (1688-...

born at Somerby in Leicester He studied anatomy in London Cowper (1666-1709), and in 1711 self began to give lectures on the mines, and copper and lead are also on the subject. He was surgeon at the St. Thomas', St. George's, and Westminster hospitals, and his skill as an operator has seldom been sur-passed. The 'lateral' operation for passed. The 'lateral' operation for lithotomy as it is now practised was

In 1737 he retired from practice owing to the jealousy of his colleagues, and died of apoplexy at Bath, 1752. Alexander Pope was one of his intimate friends.

Chesham, a mrkt. tn. in Bucking-hamshire, England, 26 m. W.N.W. of London, is pleasantly situated in the valley of the R. Chess, and shut in by wooded hills. It manufs. strawplait, shoes, wooden wares, and paper. The Chess is noted for its water-cress and trout-fishing. Pop.

of par. (1911) 8204.

Cheshire, a co. of England, bounded on the N. by the Irish Sea and the Mersey, and on its other sides by the shires of Lancaster, York, Derby, Stafford, Salop, Flint, Denbigh, and by the estuary of the Dee. Its greatest length from N. to S. is 48 m., breadth from E. to W. 32 m., total area (of land and water) 1027 sq. m., 76 per cent. of which is under cultivation. The surface of the county, except on the extreme eastern and western borders, is level, wellwooded and studded with small lakes The plain rests on red or meres. sandstone, crossed by a ridge some 370 ft. high, running from N. to S The chief rivers are the Dee, Mersey, and Weaver, all navigable. In addition there is a splendid system of canals-Cheshire contains the greater part of the Manchester Ship Canaland an excellent service of railways. The soil is chiefly clayey or sandy loam with marl and peat, and is very fertile. The climate is moist and temperate. The land is divided into grazing and dairy districts, which provide the chief occupations. Cereals grow well here, especially oats, but the chief product of the county is its cheese. Cotton and woollen goods, silk, and lace are manufactured at the largest ships can proceed almost to silk, and lace are manufactured at the the mouth of the Susquehanna, and towns near the Lancashire and York-Baltimore and Washington are virtu- shire boundaries. One of the most Cheshire is

mines in the near North-; from 20 to merous coal-

self began to give recentes on the subject. He was elected a Fellow of found. Chester is the capital, and the Royal College of Science in 1712, other big towns are Birkenhead, and published a series of interesting Macclesfield, Stockport, Congleton, papers, one of which recounted the Crewe, Northwich, and Stalybridge. sensations of a boy of fourteen on The county is divided into eight recovering his sight through the parliamentary divisions, each returnation of an 'artificial pupil' ariamentary divisions, each returnative being blind from infancy. In 1713 he published Anatomy of the Human Body, long the standard book that the history of the surrous of the published Anatomy of the country of the co and many old castles and manors. Egbert in \$28 added C. to the Anglo-Saxon kingdom of Mercia. William the Conqueror made it a county palatine under Hugh Lupus, with an independent parliament and eight barons. Henry VIII. subordinated it

to the English crown, but the county | via the Euphrates, but the French of C. did not send representatives to the English parliament until 1549.

Pop. (1911) 954,779.

Cheshunt, a par. and a vil. in Hert-fordshire, England, on the Great Eastern Railway. It is situated on the R. Lea, 14 m. N. of London. In 1792 the Countess of Huntingdon founded a college here, known as Cheshunt Theological College. torically it is interesting, as Cardinal Wolsey stayed for a time at Cheshunt Great House, and Richard Cromwell died at Pengelly House in 1712. Pop. (1911) 12,954.

Chesil Bank, or Beach (A.-S ceosol, pebble-bank), a curious shingle beach on the coast of Dorset, England. runs 18 m. S.E. from Abbotsbury, and ends in the so-called isle of Portland. At Portland end the height of the bank is 35 ft. above spring tide level, and is 200 yds. broad. A peculiar fact about it is that the pebbles decrease in size from 1 to 3 inches in diameter at Portland to the size of peas at the western end.

Chesme, or Tchesme, a small sea-rt in Asia Minor, 40 m. from port in Asia Minor, 40 m. from Smyrna and opposite the island of Scio. The Turkish fleet was burned here in 1770 by the Russians under Orloff and the English under Admiral Flabinstone and Sir Sawuel Greia Elphinstone and Sir Samuel Greig. The town suffered extensive damage

from earthquake in 1881. Pop. 6000. Chesné, André du (1584-1640), a French geographer and historiographer to Louis XIII. He was born in the province of Touraine and became famous for his historical and philological learning, which won him the name of 'father of French history.' The work for which he is best known is his valuable collection of the oldest French chroniclers. Historiae Francorum Scriptores coatani, ab Gentis Origine usque ad Philippi IV. tempora, of which he edited four volumes, and his son published the fifth after his father's death. He published many other historical works, among them a history of England.

Chesney, Charles Cornwallis (1826-76), a professor of military strategy at Sandhurst, and a nephew of the explorer, Francis Rawdon C. He held the position of chairman of Sandhurst in 1861, during which time he acquired fame for his 'Waterloo

Lectures 'delivered there.

Chesney, Francis Rawdon (1789-1872), an English general and explorer, was born in co. Antrim, Ireland. It was his report, drawn up in 1829, on the subject of the isthmus of Suez, that made De that made De Lesseps project his canal scheme. square, etc. The pawns are known The one great wish of his life was from the piece before which they to have an overland route to India stand. Thus, in front of the queen's

and Russian opposition was so great that the idea was abandoned. connection with the scheme, howto prove vas navigabl οf

Chess

his expc the Euphrates and Tigris, 1850-68.

Chesney, Sir George Tomkyns (1830brother of Charles Cornwallis C. In 1848 he joined the Bengal Engineers, served in the Indian Mutiny and in 1892 became a general, and entered parliament as member for Oxford. He wrote several novels, The Private Secretary being the known. He also wrote a highly imaginative description of a supposed invasion of England, entitled The Battle of Dorking.

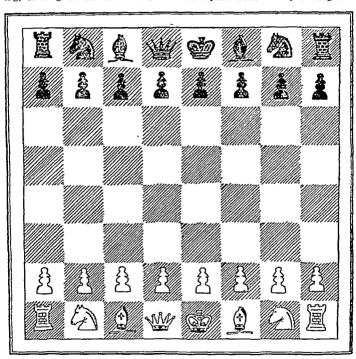
Chesnut, see CHESTNUT.

Chess, a game played by two persons on a board composed of sixty-four squares, alternating black and white, so placed that a white square is on the right-hand extremity of the board before each player, Thirty-two chessmen are used, sixteen being black and sixteen white. player takes the black men, the other takes the white, and each arranges his pieces on the board before him as shown in the diagram. Naming them from the white square on the players right, the pieces in the black line are thus arranged: Queen's rook (the rook is known also as the castle), queen's knight, queen's bishop, queen, king, king's bishop, king's knight, king's rook. The front line is composed entirely of pawns. Considering the back line, it will be seen that each piece is directly opposite to an opposing piece of the same denomination; that queen faces queen and that king faces king. The white queen is on a white square and the black queen on a black square. object of the game is to force the king of the adverse party into such a situation that he can neither move nor remain without the danger of being taken by some other piece; for the law of the game, as will be seen later, does not allow of his being actually captured, but only threatened, and he must then remove, if possible, out of danger. If he cannot, the game is lost. From the accompanying diagram, the names of the various squares on the board may be seen. That in front of the queen's rook is known as the queen's rook's second Two squares in front of the square. queen's rook is the queen's rook's Similarly third square. signifies the queen's rook's fourth square, etc. The pawns are known from the rises before the rises to the room the rises before the rises to the r

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rook is the queen's rook's pawn, in front of the king's knight is the king's knight's pawn, and similarly thus be noticed that the bishop for the other pieces. It is necessary always remains on squares of the to consider now the ways in which the pieces move, as the complicated nature of these moves forms one of the and the white K B can never be on a white square, and the white K B can never be on a main difficulties for the beginner. The king has the power of moving one ilmited in distance and is composed of two short moves, a lateral move of ing, so long as the move does not one square followed by a diagonal

Chess



expose him to capture by any of the enemy's pieces. Neither the king nor any other piece may move to a square which is already occupied by a piece of its own colour. Thus from his own

move of one square. Thus, the Q Kt might move to Q R 3, Q B 3, or Q 2. The knight alone has the power of passing over another piece. The 'taking' of an opponent's piece of its own colour. Thus from his own square the king could move to Q sq., is done by moving one of one's own Q 2, K 2, K B 2, and K B sq., but no further by one move. The queen may move any distance in a straight line, either laterally or diagonally, but neither queen, rook, nor bishop may pass over an intervening piece. The rook also can move any distance, but his motion must always be lateral. The bishop, on the contrary, third or fourth square, but after this

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pawns into a square occupied at the

first move it can only move forward | the checking piece. When he can do one square at a time. Whereas it none of these things he is said to be moves laterally, it can take diagonally checkmated, 'Checkmate' is called, alone. Thus, a pawn on Q 4 may and the game is over. Should a take pieces on Q B 5 and K 5, but player be in such a position that he is stopped by a piece on Q 5. If a can move none of his pieces without player succeeds in getting one of his putting his king in check, but yet his king is not in check at the moment, beginning of the game by one of his adversary's back line, he may exchange it for any piece except a king, also results through neither player either a queen, rook, bishop, or knight, being able to checkmate the other.

P.S.A.Q	Q.Kt.Sq	P28.D	PS.D	K.Sq.	RB5q	PZ.1N.N	ь s Я अ
Q.R.8	Q.KL.8	Q B.8	Q.8	K.8	K.B.8	K.Kt.8	KR8
Q.R.2	ठ । सम्ब	QBS	Q.2	S.A	K.B.2	K.Kl.2	K.R.2
Q.R.7	Q.Kt.7	Q B.7	Q.7	K.7	K.B.7	K.Kt 7	KR7
Q.R.3	Q.KL3	C.A.D	Q.3	K 3	K B.3	K.Kt.3	К.R.3
Q.R.6	Q.Kt.6	Q.B.6	Q.6	K.6	К.В.6	K.Kt.6	K.R.6
QR4	Q Kt4	₽.8.₽	40	K.4	F.B.4	F.KL.4	4AA
Q.R.5	Q.Kt.5	Q.B.5	Q. 5	K 5	K.B.5	K.KL5	K.R.5
2 A.D	Q.KL.S	OBS	6.0	F. 5	R.B.S	१ स्ट २	K.R.5
Q.R.4	Q.Kt.4	Q.B.4	Q.4	K.4	K.B.4	K.Kt.4	K.R.4
O.R.6	Q.Kr.6	9.B.O	90	9 H	K.B.6	K.KL.6	१४४
Q.R.3	Q.KL3	Q.B 3	Q.3	К.3	K.B.3	K.Kt.3	K.R.3
Q.R.7	O'KT A	L'AO	T.O	Т.Я	K.B.7	K'Krl	K.R.7
Q.R.2	Q.Kt.2	Q.B.2	Q.2	K.2	K.B.2	K.Kt.2	K R.2
8.31.0	Q. Ke.8	Q.B.8	8.0	8.7	K.B.8	R.Kt.8	8.R.R
Q.R.S	Q.Kt.Sq	QB.Sq.	Q.Sq	K.Sq.	K.B.Sq.	K.Kt.Sq	K.R.Sq.

king, as has been said, cannot be taken. When another piece attacks him and he is in such a position that of a double and a player putting his adversary's ordinary move. In the first case K king in such a position says 'Check' moves to K Kt sq., and K R moves on doing so. A player whose king is to keck must do one of three things in check must do one of three things at his next move. He must move to Q sq., while Q R moves to Q sq. at his next move. He must move to the king nor the rook have yet been piece so as to shield the king, or take next move, he is said to be in check,

so that he may possibly have two An important privilege allowed to queens on the board at once. A the king once in each game, the A the king once in each game, the be privilege of castling, yet remains to be ks mentioned. The operation consists at of a double move performed in conhe might be taken at his adversary's junction with either the king's rook or the queen's rook, and counts as an

Note must also be made of a parti-cular method of taking by the pawn known as taking op the pawn known as taking en passant. It may occur when a white pawn is on a fifth square, say K B 5. If, then, the black K Kt pawn or K pawn makes its initial move of two squares (i.e. to K Kt 4 or K 4), it may be taken passant by the white pawn or en passant by the white pawn on K B 5, the white pawn moving to K Kt 3 or K 3 as the case may be. A gambit is a method often used to secure an opening for attack. By it a pawn or piece, usually a pawn, is sacrificed in order to enable a piece to secure a better postirio. secure a better position. There are various gambits, such as king's gambit, queen's gambit, etc., to each of which there is a recognised defence. The various methods of opening a game of C. may soon be learnt. White generally makes the first move, and so it is usual for the players to draw for colours. The commonest first move is that of the king's pawn to K 4. The commonest second move is that of K Kt to K B 3, and these two form an excellent openthese two form an excellent opening for beginners. Sometimes the
stronger player gives odds to the
weaker player to make the game
more even. It may consist of the
removal of any piece from the stronger
player's ranks according to the odds
to be given. If a pawn be given, it
sellent invariably the king's almost invariably the king's is bishop's pawn. It is not necessary to go into further detail as to the methods of playing C., as there are many valuable handbooks to which reference may be made. On account of the interest derived from the infinite variety of its combinations, and from success depending entirely upon skill wholly independent of chance, it has become a favourite game among the educated persons of all nations, and in the course of centuries a vast literature has gathered round it.

History.—The game is of the greatest antiquity, and much dispute has arisen as to the country whence it first took its rise. A distinct balance of historical tradition inclines to Hindustan. Here it has been known immemorially under the name of chaturanga, from chatur, four, and anga, a part or member, generally explained as referring to the four players. The original method of play differed widely

that no piece should intervene Greeks or Romans, but was introbetween the two, that no square duced by the Arabs into Spain at the passed over should be commanded by one of the enemy's pieces, and throughout Europe by the the conduction of the co time of the Crusades. The first book printed in England was The Game and Playe of the Chesse, issued by William Caxton in 1475, and this fact shows the popularity of the game. The more masterly treatises on C. begin in the 16th century with the Portuguese Damiano, whose work is, however, distinctly inferior to the treatise by the Ruy Lopez, a Spanish cleric, published at Alcala in 1561. By the end of this century, the chief home of the game had shifted to Italy, where the city of Venice had the pre-eminence. Among the names of chess-masters of this period may be named Salvio, Greco, and Polerio. The 17th century is comparatively unimportant, but the 18th century saw a great revival in the study of C. In the N. of Europe the name of Philidor stands alone, and in the S. the names of Ercole del Rio, Lolli, and Ponziani deserve mention. In the 19th century England became the supreme chess-country, Howard Staunton was generally recognised as the world's greatest player. A greater genius, however. Paul Morphy (1837-1884) by name, arose in America, and defeated the strongest players of Europe. There are now chees clubs throughout the British Isles, and in this country the game has attained to a dignity it has never reached before. The British Chess Association binds all the chief clubs together. The game has also spread throughout the colonies. full information on C. and its history. see H. Staunton's Chess Players Handbook, 1847 (new ed. 1889); Chess Praxis, 1860 (new ed. 1889); and Chess Theory and Practice, 1876 History of Chess, 1860 Forbes' Lowenthal's Morphy's Games Chess, 1860 (new ed. 1886); Free-borough and Ranken's Chess Openings, 1889, and Chess Endings, 1892. See also works by James Rayner see also works by James Rayner entitled The Principles of Chess in Theory and Practice, 1894; Chess Openings 1897; and The Art of Chess, 1895.

Chest, or Thorax, an anatomical term for the uppermost section of the trunk, or that part of the body which is abov neck. 1

the gre .

pipe and its branches, the gullet and originalment of play intered when y in probability and the present one, the develoption the thoracic duct, and is conical in ment of the game continuing until shape, with rounded sides which are the 16th century, when castling, the statement at front and back. (For the latest addition, was introduced. The organs of the chest, see the diagram according was not known to the ancient companying article on ABDOMEN.) The

upper end is small, slopes downwards | partially destroyed. and forwards, and contains the gullet and windpipe, and those arteries and veins leading from and to the heart through the neck, together with certain nerves. The lower end is larger, slopes downwards and backwards, and is enclosed by the diaphragm, which is convex when viewed from above, and which separates the C. from the abdomen. Muscles radiate from this diaphragm to the body wall, | and in respiration, by *ha an of these muscles and

flattening of the diaph upwards and outwards, the cavity of the C. is enlarged. The C. is constructed of twelve pairs of ribs starting from the vertebral or spinal column, together with the breastbone, the diaphragm, and the intercostal muscles. Since the C. contains the human system. The common

of the C., such as pneumonia, consumption, etc., are really of the lungs and air tubes. lacing and rickets, which caus

SKELETON, ANATOMY, PHYSIOLOGY, etc.

leather and often very much mented. They were frequently ferred from place to place as per luggage. Chests are now often in churches for the reception of ments, plate, and parish record They were equivalent to our st

Chest, Military, a wooden box about 30 in. by 18 in. by 18 in. with a perfectly flat lid, and iron-bound corners, which is painted grey, and used in barracks. It is for the personal use of non-commissioned officers and men, and every man in barracks has his own chest.

Chester, an episcopal city, municipal co., and parl. bor., and the co. tn. of Cheshire. It lies in a low S.E. of Liverpool. antiquity, as proved by its name, a provements. Pop. (1911) 39,028. corruption of the Roman castrum, a camp. The Romans themselves called Pennsylvania, U.S.A., and 15 m. from the Castra December 2011. it Castra Devana after the Dec. In

In 973 Egbert set forth on his triumphal progress from C., rowed by six conquered kings. From the Conquest to the reign of Henry III. Cheshire was a county palatine and C. the seat of its earls. arls. In 1506 Henry VII., by the Great Charter, constituted the city a county by itself. In 1553 C. first returned two members to the English parliament, reduced in 1885 to one. C. is the only city in England which retains its town walls intact. are nearly two miles in circuit,

twelve to forty feet high, and with the action of the layer of muscles broad enough at the top for two men covering the C., which draw the ribs to walk abreast. The four gateways have been rebuilt at different dates, but part of the old towers remain. C. is unique among English cities by its streets carved out of the rock to a depth of from four to ten feet, and by it 'Rows,' or covered areades, formed by the second story of the heart and lungs, two of the three houses receding some sixteen feet 'vital' organs of the body, the other from the first. The promenades thus being the brain, it is the seat of a formed are covered and approached large number of the diseases of the by steps from the street. Here are

nber houses, 2). The most the ancient 1053, and

tions in the form of the C., often built with a combination of every cause C. diseases. See HEART, MAN, style from Norman to Late Perpendicular (restored 1876), and the church of St. John the Baptist, now outside Chest, a large box made of wood or the walls; it is said to have been iron with a hinged lid, that was used founded by Ethelred in 689, was as a receptacle for treasure, records, or made a cathedral in 1075, and is one linen, etc. It is of very ancient origin. of the most splendid examples of being one of the oldest pieces of house- early Norman architecture in the hold furniture. In the old days the country. The chief modern buildings chests were sometimes covered with are the Town Hall (1869), Grosvenor

built at g, at the King's VIII. ı public common

race meeting in May. The old seven-arched bridge over the Dee is very picturesque. The town is very well served by the London and North Western, Great Western, Cheshire and Great Central Railways. manufactures of lead shot. and paint, furniture, upholstery, tobacco, boots and shoes, and the iron-foundries are chiefly carried on outside the walls. The silting up of the Dee destroyed C.'s importance as plain on the r. b. of the Dee, 16 m. a port, but the navigation has been S.E. of Liverpool. C. is of great greatly facilitated by modern im-

The Pennsylvania Philadelphia. 907 Ethelfleda, the Lady of Mercia, Military College and the Crozer Theorebuilt the walls which had been logical Seminary are both established and engine works, factories and foundries, etc. Pop. 38,537.

Chester, Joseph Lemuel (1821-82), an American antiquarian and genealogist, born in Norwich, Connecticut. In 1858 he came to England and gave himself up to research work in con-nection with the genealogical history of American families. He was one of the founders of the Harleian Society and one of its publications was his Registers of Westminster, brought out Registers of the wrote many other books, but his Matriculations of the University of Oxford and his Marriage Allegations in the Bishop of London's Register were brought out after his death by Mr. J. Foster.

Chesterfield, a mrkt. tn. and municipal bor. in Derbyshire, 24 m. N.N.E. of Derby, on the R. Rother, and a canal connecting it with the Trent. It has manufactures of cottons, silk, lace, hosiery, earthenware, and machinery. In the neighbourhood are iron, coal, and lead mines. Pop. (1911) 37,406.

Chesterfield, Philip Dormer Stan-hope, fourth Earl of (1694-1773), statesman, courtier, and letter-writer. in his youth was in the household of the Prince of Wales (afterwards George II.). He succeeded to the earldom in 1726, and two years later went as ambassador to the Hague. where he remained until 1732. had formed an intimacy with Mdlle. du Bouchet, by whom he had a son, but the connection did not long en-dure, and in 1733 he married the daughter of the Duchess of Kendal. Soon after he became the recognised leader of the Opposition in the House letters. He was a friend and correspondent of Voltaire, and at one time offered to befriend Johnson, who in 1747 addressed to him the 'plan' of his dictionary. C. thought no more of Johnson until the publication of that work was announced seven years later, when he wrote in the World about it, a belated attention which the lexi-cographer resented. 'The notice cographer resented. 'The notice appointing a committee of inquiry, which you have been pleased to take of my labours, had it been early, had been kind; but it has been delayed until I am indifferent and cannot enjoy it; till I am solitary, and cannot impart it; till I am known, and do not want it.' So Johnson wrote to him, and the letter has been unifered it. So Johnson wrote to him, and the letter has been unifered it. So Johnson wrote to him, and the letter has been unifered it. School till 1891, and then the letter has been unifered the Slade School to study art. He soon began literary work, how mention in the letters are to his natural son, in which he, the books for the Bookman and the notice

here. It has large shipyards, boiler | most elegant of mankind, endeavoured to teach his son the art of being agreeable in society. He preached the graces rather than the morals, and it was the cross of his life that the recipient of his worldly sermons was in nowise improved by them. These letters were published by his son's widow (1774), and were included in Mahon's edition of C.'s works.

Chester-le-Street, a mrkt. tn. in the county of Durham, 6m. N. of Durham city. Its parish church of St. Mary and St. Cuthbert was formerly collegiate, and the village, situated on the ancient Ermine Street, was the seat of the Bishop of Berniciæ from \$83.995, under the page of Cupa-883-995, under the name of Cune-In its neighbourhood are Lambton, Lumley, and Ravensworth Collieries and iron works Castles.

Castles. Collieries and iron works are numerous. Pop. (1911) 14,712.

Chester Plays, see MYSTERY PLAYS. Chesterton: 1. A par. and vil. in Cambridgeshire, on the N. bank of the R. Cam, 1 m. from Cambridge, and forming a suburb. Pop. 11,534. 2. Par. and vil. in Staffordshire, 2 m. from Russlem, noted chieffy for the from Burslem, noted chiefly for its extensive colliery and iron works. Pop. 6500.

Chesterton, Cecil (b. 1879), an English journalist and author, born in London on Nov. 12, brother of G. K. Chesterton (q.v.). Educated at St. Paul's School, afterwards commenced to write for tiene visa College. to write for (inter alia) Outlook, Pall Mall Gazette, New Age, and Saturday Review. His first book, Gladstonian Ghosts, directed against traditional Liberalism, was published in 1905. This was followed in 1910 by Party and the People and Nell Gwynne, and in 1911 in collaboration with Men. Soon after he became the recognised and the People and Neil Grynne, and leader of the Opposition in the House in 1911, in collaboration with Mr. of Lords, and subsequently held important ministerial and diplomatic Party System. Served on executive appointments. Nowaday, is according to the Poole and Neil Grynne, and the Poole and Neil Grynne, and the People an chair in June of that year. Became a Roman Catholic in 1912. His outspoken and persistent criticism of the circumstances connected with a contract between the government and the Marconi Wireless Telegraph Company led to the House of Commons appointing a committee of inquiry,

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literature as a career, and has contributed largely to the Daily News, The Pall Mall Magazine, Black and White, Daily Herald, The World, The Clarion, The English Illustrated Magazine, The Bystander, The Fortnightly and The Independent reviews, and The Illustrated London News. Among his works in book form are: The Wild Knight, a volume of verse ; Defendant; Greybeards at Play; Defendant; Greybeards at Play; Twelve Types; Browning in the English Men of Letters series; G. F. Watts, 1904; The Napoleon of Notting Hill, 1904; The Club of Queer Trades, 1905; Dickens, 1906; The Man who was Thursday, 1908; Orthodoxy, 1908; All Things Considered, 1908; Tremendous Trides, 1900. George Bernard Shan. Trifles, 1909; George Bernard Shaw, 1909; What's Wrong with the World, 1910; The Innocence of Father Brown, 1911; Manalive, 1912; The Victorian Age in English Literature, 1913. They include a great variety of types and subjects, but all are characterised by the impetuous and unconventional personality of the writer.

Chestnut, or Castanea, a genus of Fagaceæ known to the northern hemisphere and cultivated for the handsome appearance of the species and the economic value of the fruit. sativa, or vulgaris, the Spanish or European C., helps to form dense forests, and the fruit consists of two or three nuts enclosed in a prickly burr; the bark is used in tanning, and the wood is made into furniture and palings. The fruit, called the sweet C., forms a common article of diet in Europe in its raw state, when roasted, or when ground into flour. Asconfectionery they are candied, and receive the name of marrons glacés; the starchy matter contained in them makes them of great value as a food. The horse C., or Æsculus hippocastanum, differs in most important botanical points from the sweet C.; it is a species of Hippocastanaceæ which is cultivated for its stately appe

was given to the plant on account of the marks of the leaf-scar which seem like a miniature horse-shoe. Australian C., or Castanospermum australe, is a leguminous plant which its outw constitutes a genus; its out appearance is unlike Castanea, the roasted seeds taste like those

caps

the sweet C.

Chetham, Humphrey (1580-16..., born at Crumpsell Hall, Manchester. He was in turn a merchant, a moneylender, and a cloth manufacturer in Manchester. He amassed a fair amount of money, £7000 of which he

Speaker, and working in a publisher's left for the foundation of a hospital In 1900 he definitely took up for forty poor boys. This was opened in 1656, and the number of boys now cared for has greatly increased. With a further £1000 and the residue of his property he founded a library, now containing over 40,000 volumes.

Chettle, Henry (d. 1607), dramatist and pamphleteer, son of Robert C., a dyer of London. In 1577 he bound himself as apprentice to a stationer. In 1592 he published Greene's Groat'sworth of Wit. He found it necessary repudiate any share pamphlet in his Kind Hert's Dream (1592), and to apologise to three persons who were abused in it, of whom Shakespeare is supposed to be one. In 1595 he published Piers Plainnes Seaven Yeres Prentiship, one. and between then and 1603 he wrote, or collaborated in, over forty plays. Meres speaks of C. in his Palladis Tamia as one of the jest for His pecuniary difficulties Comedy.' were constant, and are several times referred to by Henslowe in his Diary. Of C's own plays only The Tragedy of Hoffman was printed (1631). For Troyes Revenge and the tragedy of Polefeme Henslowe paid him 'fiftye shellenges.' In The Pleasant Comedie of Patient Grissill (1599) he collaborated with Dekker, and in The Death of Robert, E. of Huntingdon, with Munday. In 1603 he published England's Mourning Garment, in which he alludes to contemporary poets. Chetwood, Knightly (1650-1720), an

English divine and writer, born at Coventry, became Dean of Gloucester about 1707. He contributed a life of Lycurgus to the translation of Plutarch's Lives published in 1683, and wrote the Life of Vinnit, the preface to the pastorals in Dryden's translation of Virgil (1697), and

several biographies, essays, transla-tions, sermons, and poems. Chetwood, William Rufus (d. 1766), an English dramatist and critic. He was for many years a hookseller in Covent Garden, and later became a prompter at Drury Lane Theatre. His works include: The Lorer's Opera,

1729; T The Stc 1720;

Stage, 1749.

Cheval de Frise, or Chevaux de Frise (Fr. cheral, a horse; de Frise, rn ob-

or six

passage against the ndvance cavalry. It was first used in the Dutch War of Independence at the It was first used in the siege of Groningen in anct. Friesland. Chevalier, formerly a horseman, or used by the younger sons of a French noble family. The name is still in use among members of certain foreign orders, such as Chevalier of the Legion of Honour. Prince Charles Edward was known as the 'Young Chevalier.'

Chevalier, Albert (b. 1861), an English coster comedian and music-hall artist, born in London, and the son of a French master at Kensington Grammar School. In 1877 he acted in An Unequal Match at the Prince of Wales' Theatre, taking the name of Knight, and later he was associ-ated with Mr. John Hare. In 1899 he introduced his now famous coster comedian sketches and songs at the Pavilion Music Hall. He has written many plays, sketches, and mono-logues, and one of the former, Tommy Dodd was produced in 1898 at the

Globe Theatre.

Chevalier, Michel (1806-79), an eminent French economist and statesman, born at Limoges. In his early days he trained as an engineer, but in 1829 he joined the Socialist school of St. Simon. He became the editor of the Globe, the organ of the St. Simonians, and in 1832 he was arrested, and sentenced to a year's imprisonment on account of certain articles which had been published. He was released after six months, and sent by Thiers to America to inquire into the railway and water systems there. Later he went on an economic expedition to England, which resulted in the publication of his Desinteress materiels de la France, 1838. In 1840 he was made professor of political economy at the Collège de France. In 1851 he published an important book advocating trade; and he, with Richard Cobden. played an important part in securing the commercial treaty between France and England, 1860. The same year he was created member of the Senate, and for many years took an active part in discussions, until he retired from public life in 1870.

Cheviot Hills, range of hills stretching from N.E. to S.W. between England and Scotland, and covering about 35 m. of the border between the two countries. The larger part of the two countries. The larger part of propaga, the two countries. The larger part of propaga, the range is in England, the smaller English armorial charges.

Chevrotain, or Mouse-deer, of the portion being in the county of Rox-burghshire. The highest per Cheviot, 2676 ft. The other Cheviot, 2676 ft. The other forming the range are Cairn

forming the range are Cairn
2545 ft. Hedgehope Hill, 234
Windygate Hill, 2001 ft., Peel
1964 ft., and Carter Fell, 1815 ft. characteristics and habits of some
The range is well covered with grass, rodents. They inhabit Asia, the
and affords excellent pasturage for Malay Archipelago, Ceylon, and
the flocks which graze on its sides.
The S.W. portion of the range consists chiefly of limestone belonging C., which comes from Africa.

a knight; it is also an honorary title | to the Carboniferous system. but the highest peaks are of volcanic origin. pointing to the Lower Old Red Sandstone Age. A huge mass of granite

pierces these volcanic formed rocks for about 20 sq. m., forming the highest peak, Cheviot.

Chevreul, Michel Eugène (1786-1889), a French chemist, born at Angers, where his father was a physician of the control of t At the age of seventeen physician. physician. At the age of sevence, he went to Paris, and entered L. N. Vauquelin's College, where he studied with much zeal and success, becoming in time Vauquelin's assistant at the Natural History Museum in the Jardin des Plantes. In 1813 he was made professor of chemistry at the Lycée Charlemagne, and took charge of the Gobelins tapestry works, where he performed his researches on colour contrasts. In 1826 he became a member of the Academy of Sciences, and was elected foreign member of the Royal Society of London. In 1830 he became director of the Natural History Museum in Paris. In 1886 his hundredth birthday was celebrated with great public rejoicings, and a grand fete given at the Museum in his honour. His name is famous for his discoveries of margarine, stearin, and olein, as well as for research work on dves and soap-making.

Chevron (Fr. chèvre, a goat), in architecture, a decoration introduced into England in the 11th century, and consisting of a moulding with a zig-zag outline, examples of which are to be found in Canterbury Cathedral and some parts of Durham Cathedral. It is a common decoration in the Zimbabwe ruins, Rhodesia, and in South Arabia. It is used also on shafts, as in the cloisters of Monreale, near Palermo, in those of St. Paul, outside Rome, and in many German churches. Its first appearance was on the tomb of Agamemnon, at Mycene. In heraldry, C. is one of the ordinaries formed of two bands, joined together at the top, and coming down to the ends of the shield in the form of a resist of connected. pair of compasses. Shields may have one, two, or three Cs., and in some as many as five have been found. It is

Chevy Chase, the name of a well-delivered the Bampton Lectures at known English border ballad. The Oxford, He was a member of the incidents in the ballad are not founded on historical fact, though it may in part refer to some encounter which took place between its heroes, Percy and Douglas.

Chewing-gum, a preparation made from a gum called Chicle, which is the production of a Mexican tree of the same species as the india-rubber It is sweetened, and various flavouring substances are added to it. It has become a very favourite sweet-

meat in U.S.A.
Cheyenne: 1. The cap. tn. of the state Wyoming, U.S.A., situated near the 1897-99; and others are: Jewish Laramie Mts. It is a centre of the cattle industry, and coal and iron are Micah and Hosca; Job and Solomon; found in the vicinity. Here is a Soldiers' and Sailora' Hosca for the Hallowing of Criticism; Jids to the Library, and

Cathedral. 2. A..... posed of two branches, which take their rise in Wyoming, and flow N.W. through S. Dakota to join the Missouri, 35 m. N.W. of Pierre. Length of each branch about, 350 m.

Cheyennes, N. American Indians, part of the Algonquin family, and separating in the 17th century from the Arapahoes, forced a way through many fierce Siouan tribes, and after crossing the river Missouri, reached the Black Hills of S. Dakota, from where they passed into Wyoming and Colorado. In 1850 they still infested the tracts of land between the Platte and Upper Arkansas Rs., but now they inhabit only the districts round Montana and Oklahoma.

Chevne. celebrated

born in thought of entering the Church, but the cycle being repeated again and finally abandoned the scheme and again. The cause of the condition is studied in the respiratory studied m Dr. Pitcair

in 1700, at the winter

the summ

many medical treatises.

Cheyne, Thomas Kelly (b. 1841), an English theologian and O.T. scholar, born in London. He was educated at the Merchant Taylors' School, and afterwards went to Worcester College, Oxford. Later he went to Göttingen, and studied the German theological methods. At Oxford he won the chancellor's medal for the English essay, and in 1869 became fellow of Balliol College. He was appointed rector of Tendring in Essex in 1881, where he remained until 1885, when he was made professor of the Interpretation of Holy Scripture at Oriel College, Oxford, which post also held a canony at Rockester. In 1889 he where he remained until 1886, when he was made professor of the Interpretation of Holy Scripture at Oriel College, Oxford, which post also held town is C., situated on a plateau a canonry at Rochester. In 1889 he

Oxford. He was a member of the O.T. revision company, and joint editor of the Encylopædia Biblica, 1899-1903. He was also in earlier years editor of the O.T. portion of the 'Variorum Bible,' and organised the theological part of the original Academy.' In 1908 he resigned his post as professor. He is the author of many books and lectures, the most important of which are: Prophecies of Isaiah, 1880, in 2 vols.; Exposition of Jeremiah and Lamentations, 1883; Book of Psalms, 1888; Introduction to Isaiah, 1895; Isaiah. Hallowing of Criticism; Aids to the Devout Study of Criticism, and

Critica Biblica.
Chaune. Sir William Watson (b. 1853), a Scottish surgeon and author. He was associated at King's College Hospital in London with Mr. Lister, afterwards Lord Lister, his former teacher at Edinburgh. He has written a great number of books on antiseptic surgery, and has also arranged, with Mr. Burghard, a Manual of Surgical Treatment, 1899-1901. He went out as consulting surgeon in the S. African War.

Cheyne-Stokes Respiration, a breaking up of the ordinary rhythm of breathing into periods of waxing and waning, occurring in affections of the central nervous systems. The breathing increases in depth until it reaches

lower again hen recom-

once more

the respiratory due to menin-, intoxications, centre is only

when ly stout, and lived on milk and vegetable blood has become venous; after deep diet so as to reduce hissize. Published breathing the venous condition is breathing the venous condition is mitigated, so that the breathing becomes shallower and eventually stops, until the consequent venosity of the The blood starts the cycle aircsh. symptom i ณร ntre exhaustion proceeds

possible. Chhatarpur, the cap. tn. in C. State, Bundelkhand, Central India, situated 120 m. S.W. of Cawnpur. The manufacture of cutlery forms the chief industry.

Chhota Udaipur, a state in Rewa Kantha, in Gujarat, Bombay Presi-dency, India, with an area of about 870 sq. m. The country is hilly, with a thick growth of forest, and the climate in most parts is unhealthy. Chhota Udaipur is the capital.

Chiabrera, Gabriello (1552-1637), an Italian poet, born at Savona, and founder of the Pindaric school of poetry. He wrote many odes, lyrics, and canzonetti, which are full of mythologic allusions and affectations, the error of the times in which he lived. Some of his works have been translated by Wordsworth. His best work, Rime, composed of lyrical pieces, was published in 3 vols., 1807.

Chia-hsing-fu, a tn. in Che-Kiang, China, on the Grand Canal. It is a very rich town, and is situated in the silk industry district. At one time it was nearly destroyed by the

Taipings.

Chiana, Val di (in Italy), one of the most fertile spots in Tuscany, and about 25 m. S. of Arezzo. It possesses a watercourse partly natural, partly artificial. About the end of the 18th century engineering operations were started so that the waters of the R. Chiana should discharge themselves into the Arno as well as the Tiber, thus helping to drain the valley.

Chi-an-fu, or Ki-an-fu, a tn. in Kiang-si, China, situated on a tribu-

tary of the Kan river.

Chiang-yin, or Kiang-yin, a tn. in the prov. of Kiang-su, China. It stands in a strongly fortified position commanding a narrow part of the river Yang-tse-Kiang, distant 80 m. from Shanghai.

Chianti, a group of mountains in Italy, near Siena, belonging to the Apennines. The slopes are occupied by vineyards, olive and mulberry plantations, and a celebrated wine

takes its name from it.

Chiao-Chou, or Kiao-Chou, a tn. in Shan-tung, China. The bay and surrounding coast were leased for ninetynine years to Germany in January 1898. In April of the same year, the territory, which amounted to about 200 sq. m. in area, was declared a German protectorate. The bay is about 15 m. in length, and in it are several small islands.

Chiapas, a dist. in the Pacific State, Mexico, bounded on the W. side by Vera Cruz and Oaxaca. It is moun-tainous, especially in the N. and S.E., one of the highest peaks being Tacana, 13,940 ft., an active volcano, and another, the Soconusco, 7450 ft. On the E. side stretches an undulating plateau, well wooded, with a plentiful

70 m. N.W. of Nagpur. The climate farming flourish, and stock-raising is generally considered healthy. | an important industry. The capital town is San Cristobal.

Chiaramonte, a tn. of Sicily, situated 30 m. W. of Syracuse; it is noted for its wine trade. Pop. 9000. Chiari, a tn. of Italy in Lombardy, 14 m. W. of Brescia. In 1701, Prince Eugene of Savoy here defeated the French and Spaniards. There are manufactures of silk and twist.

manufactures of silk and twist. Pop.

10,000.

Chiari, Pietro (1700-88), an Italian writer, who was born and died at Brescia. He started his career as a Jesuit priest, but soon became a writer of plays, of which he produced sixty in twelve years-Commedie (10 vols.), 1756-62; Nuova Raccolla, 1762. Being full of absurd intrigues and plots, and abounding in irregular invention, his plays have long since

been forgotten.

Chiarini, Giuseppe (b. 1833), an Italian poet and critic, born at Arezzo. For some time he was the director of the lyceum at Leghorn, and in 1834 was made director of the Licco Umberto I. at Rome. His poems are full of charm and tenderness, especially his In Memoriam, 1875, and Lacryma, 1879, and the influence of Carducci is felt, whose principles he strongly advocated. A complete edition of his works was published in 1902. The Studi Shakespeariani is a collection of his papers on Shakespeare.

Chiaroscuro (Lat. clarus, bright, and obscurus, dark), in painting, a term used to express the art of reproducing colour in light and in shadow, so that the one is always present in the other. It is C. which gives perfect proportion to a picture, and only the great masters, such as Raphael, Titian, Correggio, and Rembrandt, have attained to it.

Chiastolite, a variety of the mineral andalusite (q.v.), which consists of silicate of alumina. Crystals of C. are long, narrow, and grey or white in colour. When broken across they often exhibit a cruciform pattern, and cut and polished crystals, giving a black cross on a lighter ground, are often worn as amulets by Spanish peasants. This pattern is caused by the fact that the outer portion encloses a darker one of regular geometric form. C. is met with in certain slates altered by the intrusion of igneous rock.

Chia-ting-fu, or Kia-ting-fu, in Szechuen, China, a tn. situated on the r. b. of the R. Min, where it joins the Ta-tung R. It is the centre of the silk weaving industry.

caving industry. Chiavenna (in Italy), a tn. in Lombardy on the little R. Mera, not far from Lake Como. It commands a water supply. Agriculture and fruit view of the famous Spligen and Maloga passes, and is looked upon as quarter of the city lies in the S., and one of the keys of N. Italy. The has a number of fine streets, among Splügen route runs N. from Chiavenna to Coire, and a new road was made by the Austrians in 1819. Celebrated for its breweries, and carries on active trade with Switzerland.

Chia-yu-kuan, a tn. of Kansu in China, situated at the western end of

the Great Wall.

Chiba, a city of Hondo, Japan, situated on Tokio Bay, 20 m. E. of

Tokio. Pop. 26,000. Chibchas, or Muyscas, one of the civilised nations of S. America, whose kingdom at the time of the conquest consisted of the Plateau of Cundinamarca, and some surrounding districts of Colombia. The nation was divided into two separate states, which were hostile to one another. One was governed by the 'Cipa,' or king, of Bacata, and the other by the 'zaque,' or lord of Ramiriqui and Hunsa. Their total population amounted to over one million. They now no longer exist, having been overthrown in 1538. Evidence of their great culture is seen in their stone temples, highways, statues, suspension bridges, and their beautiful gold and silver work, also their weaving and dyeing.

Chica, colouring matter of an orange-red shade which is obtained from a native plant (Bignonia Chica), and made into a pigment by the Indians of the Upper Orinoco and Rio Negro: it is used by them to adorn their bodies. The name is also used for a beer made in S. America.

Chicacole, a tn. of British India, in the Ganjam dist. of the Madras Presidency, situated on the R. Lan-guliya. It was once famous for muslins, but the industry is no longer

carried on. There are several old Mohammedan mosques. Pop. 18,500. Chicago, the cap. of Cook co. in the state of Illinois, U.S.A. It lies on the extreme south-western shore of Lake Michigan, its lat. being 41° 53' N., and its long. 87° 37' W. Its distance W. of New York is about 911 m., and N.W. of Washington about 100 m. less. The city occupies an important position, being a large railway centre, and consequently carrying on an enormous trade with other large places, so that it is now the second city of the United States. The area of C. is about 190 sq. m., and it is built along the shore of Lake Michigan, extending for about 25 m. along the lake front. The land on

the largest and most important being State, Madison, La Salle, Clark, Wabash Avenue, and Dearborn, while Michigan Avenue, Grand Boulevards, Drexel and Lake Shore Drive, are some of the principal ones in the residential quarter. Here the houses are mostly built with a frame-work of steel, as in the case of those used as offices, the latter towering up to tremendous heights, and accom-modating at the same time a large number of people. Among the most important buildings in the business quarter may be mentioned thamber of Commerce, which fourteen stories high. The City Hall and Court House is a double building. the erection of which cost considerably over \$4,000,000, and close to it is a statue of Columbus. Others of considerable importance are the Board of Trade, a granite building nourd of trade, a granite building with a tower over 300 ft. high; the Rookery, the Tacoma, the New York Life Insurance Building, and the Illinois Trust and Savings Bank. The new Federal Building, occupying a complete block, is situated quite close to the Great Northern Hotel, the Manhattan, the Monadnock, and the Monon, four immense buildings, while the offices of Marshall Field's. while the offices of Marshall Field & Company, the Masonic Temple, and many theatres and concert halls are also worthy of note. In addition to these is the Auditorium, containing a theatre and a hotel, the Art Institute, containing a valuable collection of pictures and Public Librar Society, and The Chicago

from 1892, has been endowed by Mr. Rockfeller and has faculties of science. arts, commerce, and law. There are also many other educational buildings, including schools of theology, medicine, law, and several others. C. is well provided with parks, occupying in all over 2000 acres and connected by means of the boulevards. The chief of these are Lincoln Park at the end of Lake Shore Drive and containing a statue of Lincoln; Washington Park, which is connected with Jackson Park by the Midway Plaisance, the latter park being the site of the World's Columbian Exposition in 1893. The Field Columbian Museum is also situated in this park. Among the W. side parks are Douglas Park; Garfield Park, which which it is built is extremely flat, possess a conservatory Illumboldt scarcely rising above the level of the lake. The C. rivers divides it into districts known as the N., W., and S. parts, characterised by long, regular, and straight streets. The business city, the chief one being Cook County

Hospital. The other institutions include Armour Institute, Hall House, a social settlement planned on the lines of Toynbee Hall, and many asylums, nurseries, and homes. water supply of the city is extremely good, owing to the construction of a tunnel, extending 4 m. into Lake Michigan, while the sewage of the city is carried by a canal into the Illinois R. This canal, which cost \$33,000,000, was opened in 1900, and connects the Chicago R. with the Des Plaines R., and finally with the Illinois. C. owes its great advance in commercial activity to its advantageous position. In addition to its being on the Great Lakes, it is in such a position as to be an extremely good railway centre, and by this means is connected with all parts of the United States. There are also

city, with the exception of N that does a larger trade.

place. The grain, which reach total of about 3,000,000 bushels

annum, consists chiefly of corn, and Illinois, 1890; A. J. Andreas, elevators are a feature of the city. History of Chicago from the earliest The Union Stock-Yards, which are period to the present time, 1881; Joseph situated in the S.W. part of the city, Kirkland, The Story of Chicago The Union Stock-Yards, which are situated in the S.W. part of the city, ore also worthy of notice, as they constitute the largest live-stock market in the world, employing an enormous number of workers (about 25,000), and having accommodation for hundreds of thousands of animals. In these yards the animals are slaughtered, and large quantities of canned meat, glue, butterine, and other products are turned out from including iron ar cars, agricultural

ing, and furnitu. cominarvesting machines are made, the Suez Canal. two largest firms being the Deering Chicane McCormick and the Company Harvesting Machine Company. Pullman, situated in the S. of C., is a model town built by the Pullman Car Company, and here are the Pullman Car works, at which are produced the railway cars known by that name. The government of C. is regulated by a general charter law of 1875, the power being vested in a council elected from the wards. The mayor, who is elected for two years, is at the Bermejo district, where they were

Hospital; another is the Presbyterian | head of the council, and has the power of appointing single commissioners to rule the different departments, all of which are under the power of the council. It lies also with the mayor to dismiss any commissioner unless two-thirds of the council object. The growth of population in C. is remarkable, its increase during the last twenty years being from 503,000 to nearly 3,000.000. There is also a large percentage of foreigners in the city, including Bohemians, Ger-mans, Swedes, Norwegians, Poles, mans, Swedes, Norwegians, Foles, Italians, and Russians. The name of the city, C., is derived from a word meaning 'wild onion,' and was in 1673 visited by Joliet and Marquette, and after the giving up of a piece of land to the government near the end of the next century, Fort Dearborn was built by them in 1804. In 1812 the Indians massacred the the United States. There are also In 1812 the indians massacred one steamship lines with regular services settlers, but it was rebuilt very connecting it with other places on shortly afterwards, and by the year the lakes, while in addition it ranks 1837 had received its charter as a among the largest commercial ports city. In 1871 nearly the whole city in the world—ships of over 7000 was swept by fire, and the loss was tons being able to enter the harbour tremendous. It was, however, soon—there is, in fact, no other

better construction. ccurred the 'Haysources of the city's wealth are grain, market Riot,' in which a bomb was live stock, lumber, and meat: as for thrown among the police force who these products it holds the premier were trying to put down an anarchist wing to troubles in op. (1910)2,815,000.

1892-94.

Chicago Heights, a tn. in co. Cook, Illinois, U.S.A., 25 m. S. of Chicago. It has manufactures of chemicals, stoves, boilers, furniture, and pianos. Pop. 14,525.

Chicago River, which runs W. from Lake Michigan, is of great commer-cial importance, and with regard to its harbour, is one of the greatest in them. In addition to this all kinds the world. It is perhaps the most of manufactures are carried on in C., important of non-tidal rivers of its

having about 15 m. of navi-channel; the tonnage of its commerce exceeds that of the

Chicane (Fr. word derived from Chic, or from the Persian Chaugan), a planned intention to gain unfair advantage by petty and dishonourable tricks.

Chichas, a S. American people of the Gran Chaco, Argentina, and who are not at all similar to the other tribes who dwell in that region, and who are m They have

cultivate

known as 'mitimes,' or Peruvian worken on the Gold the Monte of w colonists. which they weave themselves from the llama wool, and the Incas are said to have employed them in

silver mines.
_ Chichele, Henry (1364-1443), an English archbishop, and founder of All Souls' College, Oxford. He was born at Higham Ferrers, Northampton, and was the youngest son of Thomas C. He was educated at Winchester, and went to New College, Oxford, in 1387. Three times he went as ambassador to France, and on his return the last time he was

made Archbishop of Canterbury. Chichen, or Chichenitza, a ruined city in Yucatan, Mexico, 100 m. S.E. of Merida. At one time it was apparently a place of religious importance, as there are many evidences of early civilisation in the time of the Itzas, a most powerful Maya nation, who were still inhabiting the city at the time of the Spanish conguest. There is a nunnery, a castle, and a central pyramid, the latter being 550 ft. sq., and still remaining a height of 70 ft.

Chichester, a cathedral tn. and municipal bor., cap. of W. Sussex, 28 m. W. of Brighton. A city rich in historical associations. It is situated on a plain between the S. Downs and the sea. The name is derived from the S. Downs and the sea. Saxon Cissancaster, the Camp,' and called so after a Saxon king who took it in 491. Originally a Roman station and the capital of the whole of Sussex until its occupa-tion by the W. Saxons. The cathedral was creeted in C. in the early part of the 12th century and burnt down in Another cathedral was built 1114. on the same site in the 12th and 13th It represents different centuries. periods of architecture, the choir Chickasaw nation, Indian territory, above the arcade and the eastern part U.S.A., on the Chicago, Rock Island, containing excellent Pacific Railroad. Its industries containing excellent the Early English

special features of t in its nave with double aisles on each side, a detached campanile or bell-

in structure

ornate perishop's palace and cloisters are not far from the cathedral. Other buildings of interest are the church of St. Olave (Roman

They dress in a cloth which the street of th Church (a fine modern structure) C. has a fine cattle market, and the chief trade is agricultural produce and live stock. Many Roman remains have been discovered here. (1911) 12,591.

Chi-Chou, one of the nine divisions of China in the Hia dynasty, corresponding with W. Chili, Shansi, and part of Honan N. of the Yellow R.

Chickahominy, a river of Virginia, U.S.A. It is a trib. of the James R., which it joins 22 m. below City Point. In 1862 the battles of Fair Oaks, Mechanicsville, Gaine's Mill, Savage's Station, White Oak Swamp, and in 1864 Cold Harbour, took place near the river.

Chickamanga Creek, a river which takes its rise in Walker co., Georgia, U.S.A., and flows into the Tennessee, 6 m. above Chattanooga. The confederates under Bragg defeated the Federals under Rosecrans in Sept. 1863 on the banks of the river.

Chickasaws, a tribe of N. American Indians, allied to the Cherokees. They formerly occupied the Northern Missisippi and parts of Alabama, but have since settled in the Indian territory,

agreed to liberate their slaves. late years they have advanced considerably in culture, and many have read for degrees at American universities. The 'nation' numbers 10,500, but there are only about 4000 pure Chickasaws.

Chickasha, or Chickasaw, a tn. of ide lumber, cotton, and cotton-oil. Pop. (1910) 10,320. Chicken, see POULTRY.

side, a detached campanile or belltower, and a number of portraits of
the English kings from the time of
the English kings from the time of
the Conquest and of many bishops.
The spire is 300 ft. high. Sir Gilbert
Scott and
Storation
Storation
Storation
Early English, and Late Norman
Styles are all in evidence in this
in structure
in structure

Chicken-pox, a mild, feverish, and
infectious disease, common among
the disease, the appearance of small vesicles
which may not be very numerous:
low become pustular, and
und drop off at about the
r scarring which follows
It is not a dangerous
disease, the fever not being very
in structure disappeared, and when all the scabs have Chicken-pox, a mild, feverish, and

disappeared, and when the person affected has had an antiseptic bath. A theory of C

tion through but it is not

Chick-Pea.

arietinum, a leguminous plant cultivated in India and S. Europe for food. It is bushy in habit, grows to a height of nearly 2 ft.. has the pinnate leaves common to the order, and the pods are short, oblong, and two-seeded; the flowers of this annual are solitary and are of a pale violet colour. The seeds are about the size of an ordinary pea and bear a striking resemblance to a ram's head, hence the specific name. When boiled they form a nourishing article of diet, or when ground and made into pea-soup. In summer the plant exudes little viscid drops from the stem and leaves and on evaporation these leave behind crystals of oxalic acid, to which its grateful refrigerating qualities are due. Cajanus indicus, a tropical leguminous plant, is sometimes known as C., its other names being Congo, or pigeon, pea and dahl. Its seeds also form an article of food,

and are frequently used in curries. Chickweed, a title shared by several plants, but it is applied particularly to the caryophyllareous plant, Stellaria media, an ally of the stitchwort, from which it is distinguished by the double row of hairs on each internode. The flower is well known to please the palate of cage-birds, and it is a peculiarity of S. media that it obligingly flowers the whole year round. Other familiar plants bearing the shore personal to the plant of the shore personal to the plant of the shore personal to the plant of the plant of the shore personal to the plant of t ing the above name are members of different genera: thus, Cerastium includes the field mouse-ear C. (or C. arrense), and the viscid mouse-ear C. (or C. viscosum), and the tropical genus Drymaria has a species known as C. (D. cordata). Holosteum umbellatum, yet another caryophyllaceous plant, is called in America the

jaggéd C.

Chiclana de la Frontera, a tn. in Andalusia, Spain, on the Lirio, 12 m. S.E. of Cadiz. Near by is a ruined Moorish castle, and the mineral baths are much visited by the inhabitants Wines are exported, and of Cadiz. of Cadiz. Whies are exported, and linen and earthenware goods are manufactured. Pop. (1900) 10,868.
Chiclayo, a tn. of Truxillo dept., E.

Peru, S. America, 12 m. S.E. of Lambayeque and in that province. Has

chicopee: 1. Th. of Hampden co., Massachusetts, U.S.A., on Connecticut R., 4 m. N. of Springfield. It has large manufactures of cotton (in the Dwight mills), bronzes, artillery, swords tools and historical pwight mills), bronzes, artillery, swords, tools, and bicycles. Pop. 19,170. 2. River, in the S. of Massachusetts, which flows in a westerly direction to join the Connecticut R. on its 1. b. 4 m. N. of Springfield.

Chicory, Succory, or Cichorium intybus, is a composite plant common to the Mediterranean and Europe,

and is in the same genus as the endive. The whole plant is bitter and aromatic, and the leaves, as well as the root, have been used in medicine, in the form of a decoction, as a tonic bitter and diuretic. The leaves are large and succulent, and are often grown without light, when they become tender and delicate, and form a pleasant winter salad. But the cultivation of C. is carried on more for the sake of the roots than for the leaves. and these carrot-shaped parts of the plant are dried, roasted, and ground, and then mixed with coffee. much cheaper than coffee, and when this produce became too dear for the labouring classes of France and Ger-many, it was universally used as the best substitute.

Chicoutimi, tn. of Quebec, Canada, in county of same name on R. Sague-nay, 111 m. N.E. of Quebec. It is the

seat of a bishop. Pop. 3000. Chicova, a vil. and fort of Monomotapa, Portuguese E. Africa, in a plain of the same name, on the Zam-besi R., 220 m. N.W. of Senna. The plain is fertile, and there were formerly silver mines.

Chidambaram, Chilambaram, or Chittambaram, a tn. of S. Arcot, Mad-ras, British India, 21 m. S.W. of Cuddalore. It is a religious centre for the whole of Southern India and Ceylon; the most important among the numerous temples being that of Siva. The town was of some strategical importance during the wars of the

Carnatic. Pop. 18,600.
Chief, in heraldry, one of the honourable ordinaries, which occu-

honourable 'ordinaries,' which occupies one-third of the upper part of
the field, defined by a horizontal line.
Chiem-See, lake of Upper Bavaria,
Germany, 40 m. S.E. of Munich. It
lies 1650 ft. above sea-level, is about
12 m. long and 7 wide, and has an
area of 34 sq. m. The greatest depth
is rather over 500 ft. On the lake
are the islands of Herrenwörth and
Frauenwörth. It is fed by the rivers
Achen and Prien and discharges its

Frauenwörth. It is fed by the rivers Achen and Prien, and discharges its surplus water by the Alz into the Inn. Chien-chang-lu, dist. of Süchwan, China, lying between the Tatu and Kinshakiang Rs. The name is also applied to the valley forming the route between Yunnan and N.

Süchwan.

Chieng-mai, or Zimme, tn. of Siam, in the Laos country, on the Me-ping R., 180 m. N.E. of Moulmein (Burma). It is a centre of the trade in teak, the It is a centre of the trade in surrounding forests of which are, surrounding forests of which Pop. roughly estimated at 100,000.

Chien-ning-fu, or Kien-ning, a tn. of Fokien prov., China, 90 m. N.W. of Fuchow.

Chieri, a tn. of Turin prov., Pied-

mont, Italy, standing on a hill 9 m. S.E. of Turin. Formerly a fort. The most interesting building in the town is the church of Santa Maria della Scala, built in 1406. There are manufactures of textiles. Pop. 12,336. Chieti: 1. Prov. of S. Italy, on the Adriatic. Area 1138 sq. m. The province is very mountainous, and was originally known as Abruzzo Citeriore. Pop. 371,000. 2. Capital city of province of same pane. city of province of same name, Abruzzi e Molise, Italy, built on a hill near the Pescara, 40 m. E. of Aquila and 8 m. from the Adriatic. It is an archiepiscopal seat, and contains a fine Gothic cathedral, a lyceum, and a theatre. It is built on the site of the ancient Roman Teate, numerous remains of which still exist, including a large theatre and a gateway. Teate was the chief city of the Marrucini. In 1524 St. Gaetano founded here the order of the Theatines. Cloth and silk are manufactured there. Alt. 1070-80 ft. Mean temp. for year, 56.3° F.; summer, 74.8° F.; winter, 41.0° F. Pop. 24,384.

Chiffchaff, or Lesser Pettychaps, the popular name of the Sylvia hippolais, a European species Turdidæ of primitive song resembling words chiff-chaff. Another warbler of the same family, but genus Phylloscopus, is sometimes given the same name, occasionally corrupted

as chipchop.

Chigi, the name of a distinguished Italian family. Among its most Among its most

famous members have been:

Agostino (1465-1520), the founder, a celebrated Roman banker, born at Siena; settled in Rome in 1485 and became enormously rich, his income being estimated at about £700,000 per annum. He was a £700,000 per annum. He was a patron of many famous artists, in-cluding Peruzzi, Perugino, Sebastiano

del Piombo, and Raphael. See Agostino Chigi, il Magnifico, by Cugnoni (1881-3).

Fabio, pope (1652-67), better known as Alexander VII. He was prominent in the Jansenist controversy, declaring for papal infallibility. He was involved in a dispute with Louis XIV. of France, who sent an army to sack Avignon. He was responsible for the colonnade of the Square of St. Peter.

Flavio (1810-85), cardinal. Began life as an officer in the papal noble guard; in 1848 took orders and be-came bishop of Mira; in 1850 became papal nuncio at Munich; in 1856 was papal representative at the coronation of Alexander II. of Russia; in 1861 became papal nuncio at Paris, and in 1873 was created a cardinal. Chigirin, or Tchigirin, a

tn.

Chignon (Fr. chignon, nape of the neck), a form of hairdressing adopted by women about 1780, and again about 1870, consisting of an enormous coil of hair, folded round a pad, and worn in the nape of the neck or at the back of the head.

Chigoe, Chigger, Jigger, and Sandflea, are some of the names applied to the Sarcopsylla penetrans, a species of Aphaniptera which is native to S. America and the W. Indies, but has extended its travels to other lands through the agency of man. female of this flea, which is smaller and has less powerful limbs than the common flea, buries the hinder part of its body under the skin of the human body, and when this portion of its anatomy swells it discharges numerous eggs into the host. The result of this process is frequently fraught with serious, and even fatal danger to mankind. S. gallinacea, a kindred species, attaches itself to the

eyelids of the poultry of Ceylon. Chigwell, a vil. of Epping div. of Essex, England, 13 m. N.E. of Lon-don, on the borders of Hainault Forest. It contains a grammar school at which Penn was a pupil, founded in 1629 by Archbishop Harsnet of York, and enlarged in 1871. The 'Maypole Inn' appears in Dickens's Barnaby Rudge. Pop. (1911) 2742.

Chih-chou-fu, or Chi-chou-fu, a tn. of China in the prov. of Ngan-hui, situated a few miles to the E. of a tributary of the Yang-tse-Kiang, and about 155 m. W. of Hang Chou.

Chih-feng, a small tn. of China in the prov. of Chih-li, about 140 m. to the N.W. of Chin-chou-fu.

Chihuahua: 1. The largest state of Mexico, bounded on the N. by New Mexico, on the S. by Durango, on the E. by Coahuila and Texas, and on the by Sinaloa and Sonora. Area 89,998 sq. m. On the W. the country is traversed by the Sierra Madre or Mexican Cordillera, and in the E. lies the Mexican plateau, and the de-pression known as Bolsón de Mapimi. The chief industry is stock-raising, but mining is carried on, the chief minerals found being silver, gold, and The soil is fertile, the chief copper. product being cotton. Pop. (1900) 327,784, consisting chiefly of mestizos (half-breeds) and Indians. 2. Capital of the above state, on the Mexican Russia in the gov. of Kiev. It is Central Railway, situated at an ele-

Child

vation of 4650 ft. The city was founded in 1539, and has become an important centre of trade and There silver - mining enterprise. are cotton and woollen mills, and some fine buildings, including parish church, Jesuit college, a mint, and a prison. Hidalgo and Allende, leaders of the revolution of 1810, were executed here, and a monument

to their memory stands in the public square. Pop. (1900) 30,405.
Chikislar, port of Russian Turkestan, on the E. coast of the Caspian Sea, N. of the mouth of the Atrek, 200 m. S.E. of Krasnovodsk.

Chilas, fortified tn. of N.W. Frontier Prov., British India, on R. Indus, 35 m. S.W. of Gilghit. The cap. of a small state lying between the nor-thern frontier of Kashmir and the Indus, it occupies an important military position with regard to the Kashmir-Gilghit route. and occupied by the British in 1893.

Chilblain, Frostbite, or Kibe (Ernthema pernio), local inflammation of the skin, which appears on the hands and feet, more rarely on the nose, cheeks, and ears. It chiefly affects children (girls rather than boys) and oid people, and occurs in cold weather. It is due to exposure to the cold and to bad circulation. It is attended with redness and swelling, the centre of which deepens to a purplish hue. In severe cases, small vesicles rise on the surface of the skin and ulceration follows. Cs. cause intense irritation, and, when chilled and suddenly heated again, are extremely painful. It is generally thought that they are due to de-ficient nutrition or bad health, and therefore tonic and outdoor exercise are often recommended as a remedy. The part of the body affected should be kept very warmly and loosely clad, and certain tinctures, such as iodine, chloride of iron, and camphor, may be painted on externally. Warm electric baths have also been urged as a cure. Broken Cs. should be kept scrupulously clean and dressed with pure ointment_on lint.

/ Chi the C. adult. in an and t

in a generally similar manner. Dif-ferences can be noticed in details, and the infant shows marked differences which become less marked as child-hood progresses. The infant has, in proportion to the adult, a relatively large head and abdomen, small thorax and short legs, and long arms. At birth, the head is one quarter of the height, while in the adult it is only one-eighth of the height.

The skeleton of the child differs so much from that of an adult that an anatomist can, with a great amount of accuracy, determine the age of a skeleton, up to about twenty-four years. The difference, of course, is greatest, as in all cases, in infancy. Bones consist of organic matter allied to lime salts. In the child the proportion of lime salts to organic matter is much smaller than it is in the adult. Further, the bones of a child have provisions made for growth. A familiar example of this difference between the child and the adult is the fontanelle, or 'opening in the head.'
With the growth of the skull this
disappears at about the eighteenth month, because the bones growing irregularly at their edges, meet and fit into one another, forming what is called a suture, since the bones look then as if they had been stitched together. Again, at birth many of the bones of the body are not formed. They consist then of long rods of cartilage, a tough substance which can be cut with a knife. Lime salts are deposited on these in definite places forming bone, until they coneist of a bony shaft connected to the bony extremities by plates of car-tilage. All through childhood the bone remains in this condition, but as maturity is reached the cartilage ceases to grow as rapidly as the bone, and finally disappears, the extremities joining with the shaft, and growth of the bone in length stops. The bone grows in thickness also, by means of a surrounding tough membrane, called a periosteum. New bone is formed in the deeper portions of this, and at the same time the centre of the bone is absorbed, leaving the hollow wherein rests the bone marrow. These differences give rise to peculiarities, e.g. a C.'s bone may partially break; whereas in the adult a break snaps the bone, in a child the bone may merely bend. Again, the extremity may be separated from the shaft by the breaking of the cartilage. This can only happen to children, and may have serious consemes, since it affects the growth of bone. The teeth of the C. at the are hidden in the dental sacs,

ich are in the depressions in the

Alimentary system.—The obvious point of difference between the infant and the adult with regard to the digestive organs is the absence of teeth. At birth the milk teeth are present in the gums, and teething usually commences at about the sixth month. The two lower central incisors are the first to appear and the sixth month. are the first to appear, and these are followed between the eighth and tenth month by the four upper in-

cisors. The two remaining lower incisors and the four first molars follow between the twelfth and fourteenth After a while the four eyemonth. teeth appear at about the eighteenth month, and after a fairly long in-terval the set of twenty milk teeth is completed by the appearance of the four second molars at the age of about two and a half years. This general order is not, of course, uni-versally true, but in general it may be stated as such. In the same way the second dentition, giving rise to the permanent teeth, begins at about the sixth year, and continues at the rate of four teeth a year until the twelfth year, giving rise to twenty-eight teeth. The full set of thirty-two is completed some time between the seventeenth and twenty-fifth year by the appearance of the wisdom the appearance of the wisdom teeth. Another point which may be noticed is, that the stomach lies obliquely in infancy, so causing vomiting to be easier and accompanied by less strain than it is in adults. The capacity of the stomach, and therefore the amount of milk which is required for each feeding, may be taken in general as being as follows: at birth from 1 to 11 ozs., at three months 4 ozs., at six months with cow's milk :--

6 ozs., at nine months 7 ozs., and at twelve months 8 ozs. Again, a C. at birth is unable to digest starch. This is due to the absence of saliva. and this, and the consequent power to convert starch into sugar, only comes with the arrival of the teeth. During the first ten to twelve months the child should be fed entirely on its mother's milk. The superiority of human milk over all other foods for infants, from the point of view nutritive value verdict of all upon experience. Indigestion and colic are perhaps the minor disorders induced by bottle-feeding, but the results, especially in cases where bottle-feeding is injudiciously used, may be taken as adding greatly to the infant mortality rates of our large towns. In those cases where artificial feeding must be resorted to, the best substitute for human milk is some modification of cow's milk, in which the constituents are brought to a nearer proportion to those of human

milk. Milk is an emulsion, owing its white colour to globules of fat. The following table shows the varying

composition of human milk compared

				Human Milk	Cow's Milk	Cream
Fat			•	4 7	3-4 4·3	8-20
Sugar Proteids Salts	:	:		1.5	4 .7 0·7	3·4 0·6
Water	•	•	٠	87.3	87	84-72
				100.0	100.0	100.0

Cow's milk differs in this respect, too, that the proteid contained is not nearly so digestible as that in human milk, a dense curd being formed in the C.'s stomach, while when fed on human milk a flocculent, easily digestible curd is formed. To make cow's milk of the desired quality it must be diluted to reduce the proportion of proteid, and cream and sugar of milk added. At about the seventh month some additions of starch foods should be made once or twice a day. They should not result in a diminution of the quantity of milk taken because tween the the chief

v's milk specially prepared with the addition of other foods, such as porridge,

year a large amount of milk should be included in the dietary, which should consist of four meals a day. School children require abundant feeding, and sweetmeats are an excellent addition, as they provide both sugar and fat.

Respiration and circulation.—The lungs of a child begin to expand with its first cry. The process of inflation then c

lungs until

exercise are an essential for the possession of healthy lungs, and at the same time, by producing active move-ments of the chest and diaphragm, the action of the heart is aided. Clothes should be loose in childhood, and free exercise of the voice should puddings, eggs, etc. Up to the sixth not only be allowed but encouraged.

Nervous sustem. — As has stated before, the head is relatively very big and the face small in an infant, and this large size is due to the brain case. Its brain is enormous in proportion to the size of the body. It is not fully developed, convolutions following as the result of sense im-pressions. The brain grows rapidly in size until the seventh year; the greatest growth occurring during the first year. After this period growth in weight slowly goes on until the adult stage is reached. It is to allow for this growth that the fontanelle or opening in the head occurs. The skull around the brain case consists of eight bones, partially developed at birth but all joined up in the adult. The fontanelle on the top head is the last to close, and if it has not closed by the twentieth month, then either the brain is continuing growth, or rickets has intervened. Before birth the impressions reaching the brain are few in number, but as soon as the C. enters the world, it is immersed in a flood of impressions. These cause the brain to develop. The different areas of the brain are all busy storing up impressions both sensory and motor, and association fibres are laid down which bring the different areas into relation with each other. It is easy to understand, then, that the nervous system is unstable and excitable, and that the power of control is very feeble. So headaches, convulsions, screaming fits, etc., can arise from trivial causes, and it is therefore necessary to protect a C. from un-natural excitement, and that the diet should not only be simple, but should exclude all stimulants, such as al-cohol, coffee, and tea. Sleep, rest, and quiet should be provided, and all periods, as follows :-

been possible forms of excitement, as far as possible, prevented. In later childhood, both naturally nervous and rapidly growing children require very careful treatment.

The growth of the child.—At birth the C. should weigh about 7 lbs., although 8 to 9 lbs, is not uncommon. Then a steady increase in weight and height during childhood. This growth is not uniform. During the first few days a loss in weight occurs which is made up by about the middle of the second week. During the first five months the daily increase should be from ; to 1 oz., and from 1 to 1 oz. for the rest of the first year. At six months the weight should be doubled, and trebled at twelve months. At birth the infant is about 20 in. in length, and at the end of the first year it should be 8 in. taller, although it takes six years to double the height at birth. The increase in height is not as useful as an index of health as the increase in weight. From the appended table it may be noticed that with both boys and girls the most rapid growth occurs during the first year. At about the sixth and eleventh years occur further periods of rapid growth. Boys are heavier and taller than girls at birth, and always, except-ing the thirteenth to fifteenth years when the girls are heavier, having grown more rapidly in weight from the eleventh to the thirteenth year. Between the twelfth and fourteenth year the girls are taller, but at all other times the boys are superior in height and weight. It may further be noticed that the increase in weight takes place between the intervals of greatest increase in height. Here it may also be pointed out that generally childhood can be divided into four

	Воуѕ	GIRIS
First childhood . Later childhood . Adolescence . Puberty	Up to 7 years From 7 to 12 years , 12 , 15 ,, , 15 ,, 16 ,,	Up to 6 to 7 years From 7 to 10 years ,, 10 ,, 13 ,, ,, 13 ,, 14 ,,

the fifteenth year.

The table on p. 577 (from The bably the first sense developed. Since Child: His Nature and Nurture, by smell is so closely linked up with taste W. B. Drumnond) shows the increase it may be, and appears to be, present in height and weight from birth to soon after birth. The sense of touch, however, is present almost from birth. Menial development.—At birth a lt is present in a varue form before, child is unable to interpret impress and progresses rapidly. It is partisions arriving at the brain through cularly developed in the lips and the the senses. The only way to judge as tongue, and afterwards, of course, deto the activity of the senses at birth is velops until the haud becomes the by the effects of stimulation as shown organ of touch. Until this stage is through movement. Taste is pro- reached an infant has a great tenhalf open for the first few days, and stimulus.

dency to take everything to its etc. For a while after birth a C.'s movemouth. Again, an infant is sensitive ments may be classified as either to changes of temperature. Sight is random, reflexive, or instinctive. present at birth, but the C.'s eyes may Random movements are common in move independently, as may the eye infants, and they seem to depend lids. Further, they are usually only neither upon will nor on any sensory half open for the first few days, and stimulus. Among these might be a bright light may cause discomfort, noticed, the stretching of the limbs a bright light may cause discomfort. noticed, the stretching of the immuse As to whether the child really sees or of a young baby. Older children also not, can only be told when he follows a slowly moving object with his eyes. Sleep. Reflex movements arise in When this happens, then the C. begins response to sensory stimuli and are to watch objects and persons, and soon begins to show pleasure in colours, thus showing the development may be taken as examples of this colours, thus showing the development may be taken as examples of this colours. of the sensation of colour. A sense of class of movements. Instinctive movedistance and conception of solidity ments also arise from sensory stimuli, depends upon a co-ordination of the but are more complex. They may not senses of touch and sight. The sense all be instructive, though some are.

	Во	YS	GIRLS		
AGE	Height	Weight	Height	Weight	
Birth 6 months 12 " 18 " 2 years 3 " 4 " 5 " 6 " 7 " 8 " 9 " 10 " 11 " 12 " 13 " 14 " 15	20·6 inches 25·4 "29·0 "30·0 "32·5 "35·0 "38·0 "44·1 "46·2 "48·2 "52·2 "54·0 "56·8 "56·8 "56·8 "66·0 ",	7·55 lbs. 16·0 , 20·5 , 22·5 , 31·2 , 35·0 , 41·2 , 45·5 , 66·6 , 72·4 , 79·8 , 88·3 , 110·8 ,,	20.5 inches 25.0 "." 28.7 "." 32.5 "." 35.0 "." 41.4 "." 45.9 "." 48.0 "." 48.0 "." 51.8 " 51.8 " 53.7 " 56.3 " 61.4 "	7·16 lbs. 15·5 " 19·8 " 22·0 " 25·5 " 30·0 " 34·0 " 39·8 " 43·8 " 48·0 " 52·9 " 57·5 " 64·1 " 70·3 " 81·4 " 91·2 " 108·4 "	

of distance is very vague until the C. Seizi is a few years old, and while the recognition of solid forms is developed rapidly for near objects, this also remains vague for distant objects. Hearing, again, is absent at the time of birth, because there is no air in the drums of the ears. Loud sounds do not disturb, usually, until the third day or so, and, of course, this enables the C. to sleep without being dis-turbed. The power of localising sound may be developed by the fourteenth day, but not to any very great extent. From this and other observations it may be seen that the training of the eye should be aided by the training of the hand, and similarly it appears that speech depends on hearing. The poorly developed. lower senses, i.e. taste, smell, and touch, of course, enable the C. to C.'s energy is generally regarded now develop sensations of hunger, thirst, as being a preparatory exercise for warmth, the wholesomeness of food, life as it will be. Since the human is

of m

birth, and with great force, but an infant does not desire nor seize anything at sight, but only on coming into contact with it, until the sixteenth to the eighteenth week. Similarly with the raising of the head. This is impulsively done during the first few weeks, but the will to raise the head to see things shows itself about the second month.

The will.—From these movements, which are independent of will, the C. gradually assumes control over them, and wills to do them. But this department of child-psychology is but

being made of child life methods of education is made. One need only kindergarten schools. and cookery centres, and the various school clinics to see that there is a school clinics to see that there is a spreading tendency to view the child as distinct from the adult in many ways. See A. F. Chamberlain, The Child: A Sludy in the Evolution of Man, which contains a splendid list of references: Elizabeth Harrison, A Study of Child Nature; W. Preyer, The Mind of the Child: W. B. Drummond, The Child: His Nature and Nurture; J. Sully, Studies of Child hood: Bernard Perez. The First Three. hood; Bernard Perez, The First Three Years of Childhood; W. Tracy, The Psychology of Childhood.

Child, Francis James (1825-96), an American educationalist and writer, born at Boston; educated at Harvard and in Europe. In 1851 he became Boylston Professor of Rhetoric at Harvard, and in 1876 Professor of Anglo-Saxon and Early English literature. His works include an literature. His works include an edition of Four Old Plays, 1848, and of Spenser, 1855; a treatise, Observa-tions on the Language of Chaucer's 'Canterbury Tales,' 1863; and a col-lection of The English and Scotlish

lection of The English and Scottish Ballads, 1882-98.
Child, Sir John (d. 1690), governor of Bombay, brother of Sir Josiah C. (q.v.). Went to India as a child; in 1680 became agent of the East India Company at Surat, becoming president when Surat was made a presidency in 1681. In 1684 he was appointed captain-general and admiral of the company's forces and admiral of the company's forces, and in 1686 received supreme command over the company's possessions in India, the scat o

been previously He became in

with the Emperor of Delhi.

Child, Sir Josiah (1630-1699), son of London merchant of long-established reputation. At twenty-five became victualler in the navy under the Commonwealth. Sucreeded in making a fortune and became a stock-Sucreeded in holder in the East India Company, of which body he ultimately was created governor. Created a baronet in 1678. He advocated free trade doctrines, and held the Dutch up as

highest in the scale of animals, the entitled A New Discourse of Trade

time given up to play should be a long (1690). one, and is. It must, therefore, be seriously regarded when the subject of the child and his development is Medford, Mass., U.S.A.; became a under consideration. All this leads school teacher. In 1828 she married

to the fact that modern systems of David Lee C., a journalist, and both education need revision, and in the she and her husband came under light of the special study which is Garrison's influence and joined the 'ivery crusade. She was cowith her husband of the Anti-Standard for some years after , und her other works include: Hobomok, 1821; The Rebels, 1822; The First Selliers in New England, 1829; Appeal for that Class of Americans called African, 1833; Philothea, 1835; The Power of Kindness, 1851; Isaac T. Hopper, 1853; Progress of Religious Ideas, 1855; Looking towards Sunsel, 1864; The Aspirations of the World, 1871. Childebert I., king of the Franks, 511-58; son of Clovis; inherited the kingdom of Paris; defeated Amalrich · Standard for some years after

kingdom of Paris; defeated Amalrich II., king of the Visigoths, at Narbonne in 531, and Sigismund, king of Bur-

gundy, in 532.
Childebert II. (b. 570), king of Austrasia, 575-96; the son of Sigbert and Brunhild. In 593 he inherited Orleans and Burgundy from his uncle Gontran.

Childebert III. (b. 683), nominal king of France, 695-711; succeeded his brother, Clovis III., but had no real power, the kingdom being in the hands of Pepin le Gros, mayor of the palace.

Childeric I., king of the Merovingian Franks, 463-81; succeeded his father, Mérovée, and left the throne to his

Childeric II., king of Austrasia from 660, and of Neustria and Burgundy from 669; succeeded his father, Clovis II., and left the throne to his brother, Thierri.
Childeric III.

Childeric III., the last of the Merovingian kings of France, 743-51; deposed by Pepin le Bref, and dled

at St. Omer in 754.

Childermas, the festival of Holy cents, held on Dec. 28, to comporate the slaughter of the chil-

by Herod.
Childers, Hugh Culling Eardley (1827-96), British statesman, born in London. After he left Cambridge University he went to Australia, settled in Victoria, and became an inspector of schools. He was successively secretary to the Educational Board, Commissioner of Education, and Auditor-General, holding as such a seat in the Legislative Council. In 1855 he was a rearrher of the desired to the legislative council. In 1855 he was a rearrher of the desired to the legislative council. In 1855 he was a rearrher of the desired to the legislative council. In 1855 he was a rearrher of the desired to the legislative council. In 1855 he was a rearrher of the desired to the legislative council. 1855 he was a member of the first Victorian cabinet as Commissioner of an example of commercial success. Customs and Trades. He helped con-Wrote many articles on economic siderably in the foundation of Mel-questions, the most important work bourne University. In 1857 he re-

turned to England as Agent-General described it as a bill to consolidate for the colony. In 1860 he was returned as Liberal member for Pontefract. In 1864 he was made a Civil Lord of the Admiralty, Financial Secretary to the Treasury, 1865, and First Lord of the Admiralty in 1868, and a member of Gladstone's first cabinet. As First Lord he introduced a system by which close intercommunication between chiefs of departments was checked and actual meetings of the The unboard were discontinued. fortunate case of the loss of the Captain, a new type of turret-ship, which capsized on its first voyage in the Bay of Biscay, 1870, and in which Mr. C.'s son was drowned, called attention to the new plan, and it was abandoned by Mr. Goschen, who succeeded him on his retirement in 1871. He returned to the ministry shortly afterwards as Chancellor of the Duchy of Lancaster. In 1880 he was in Gladstone's second administration Secretary for War, and as such was responsible for the military opera-tions in the first Boer War in 1880, and the Egyptian expedition of 1882. At the end of 1882 he succeeded Gladstone as Chancellor of the Exchequer: his proposals for a conversion of consols were not carried out, and the defeat of his budget of 1885 led to the downfall of the ministry, though the real cause was the national dissatisfaction with the delays and mismanagement which had ended in the death of General Gordon. At the fol-lowing general election he lost his seat, but was returned as a Home Ruler for S. Edinburgh in 1886, and joined Gladstone's third ministry as Home Secretary. He objected to certain of the financial clauses of the first Home Rule bill, which were with-drawn. He retired from parliament See Life and Correspondence. in 1892. by his son, 1906.

Childers, Robert Cæsar (1838-76), an Oriental scholar; educated at Wadham College, Oxford; in 1860 entered the Ceylon Civil Service, acting as secretary to the governor, Sir Charles M'Carthy; returned to England in 1864, and in 1872 became sub-librarian at the India Office, London. 1873 he became professor of Buddhist and Pali literature in University Col-His numerous valulege, London. able works on Oriental subjects include the Pali text, with translation, of Khuddaka Patha, and his great Pali Dictionary (2 vols.), 1872-75.

Child-killing, see Infanticide. Children Act, 1908. This Act, which is popularly known as the Children's Charter, was introduced into the House of Commons in Feb. 1908 by the Mr. Herbert Samuel, then Under-Secretary for the Home Office, who and a 'young person' over four teen and

and amend the law relating to the protection of children and young persons, reformatory and industrial schools, and juvenile offenders, and otherwise to amend the law with respect to children and young persons. The C. A. is in fact a codifying measure designed partly to remove the confusion and doubt consequent on the existence of a number of more or less unrelated statutes and partly to strengthen the law in a number of different directions. That the Act was wanted was clearly indicated by the Under-Secretary's statements in the first reading to the effect that the Infant Life Protection Act, 1897, passed to stop the evils of baby-farming, was in many respects ineffective; that in regard to overlaying of infants no fewer than 1600 infants every year met their death in that manner, and an equal number from scalding and burning—evils due apparently rather to negligence than wilful cruelty. There are also a number of very necessary provisions in the C. A. designed to obviate the evils arising from the contaminating influences of adult offenders over children and young persons. The first part of the Act is directed to the protection of infant life, and secures more satisfactory treatment for children placed out to nurse or adopted by foster parents, and it re-enacts the provisions of the Infant Life Protection Act, 1897, but raises the age from five to seven years. Persons undertaking the nursing and maintenance of one or more infants for reward must give notice to the poor law guardians within forty-eight hours of the reception of the infant. If an infant dies or is removed from the foster parent, the latter must notify the guardians and the district coroner to that effect. For the more effective carrying out of these provisions the Act enables the guardians to appoint infant protection visitors. who shall have power to apply for an order of removal of an infant kept in insanitary premises or by persons who by reason of drunkenness, immorality, or other similar cause are unfit to have charge of an infant. Offences under this part of the Act are punishable with imprisonment for a term not exceeding six months or to a fine not exceeding £25. second part of the Act deals with the preventing of cruelty to children and young persons, re-enacting the preexisting law as to the punishment of cruelty tion of the law in children in begging. A 'child 'means a person under fourteen years of age,

children under seven to the risk of burning through not taking reasonable precautions against danger from open fire grates; the allowing of children and young persons to be in brothels; the death of an infant under three years of age through overlaving or suffocation caused whilst the infant was in bed with some other person under the influence of drink; the failure on the part of a parent or other person legally unable to maintain a child or young person either (i.) to provide adequate food, clothing, medical aid, or lodging, or (ii.) to take steps to procure the same to be provided under the poor law; and encouraging the seduction or prostitution of a girl under the age of sixteen. Conviction on indictment entails either a fine not exceeding £100 and, in addition or in the alternative, imprisonment for any term not exceed-ing two years with or without hard labour. Part III., which deals with juvenile smoking, makes it an offence to sell to a person apparently under the age of sixteen any cigarettes or cigarette papers, whether for his own use or not. It is also an offence for a tobacconist to sell tobacco other than it is for the use of the young person. Fines are imposed varying from £5 to £10 according to the number of convictions. Constables and park keepers are authorised by the Act to search boys under sixteen seen smoking in any public place for cigarettes or cigarette papers. The case of auto-matic machines is also dealt with by a provision empowering a magistrate to order the removal of any machine for the sale of cigarettes believed to be extensively used by children or young persons. Part IV. of the Act consolidates and amends the various Acts relating to reformatory and industrial schools. The categories of children who may be committed to industrial schools are extended so as to include such neglected and destitute children as cannot be more appropriately dealt with under the poor law, and all such classes whose environment is such as to make it environment is such as to make it and to institute protections of probable that they will fall into infenders; and, further, to secure the criminal habits and modes of life passing of laws for the purpose of The burden of providing for the purpose of the purpos school of any child ordered .

under sixteen years of age. Besides reformatory school, the obligation is under sixteen years of age. Desides the more obvious forms of cruelty like on the county council. Part V. deals beating and abandonment, cruelty in a compendious manner with the the more obvious forms of cruelty, in a compendious manner was beating and abandonment, cruelty in a compendious manner was under the Act comprises: Exposure of treatment of juvenile offenders. No child can be sentenced to imprison child can be sentenced to imprison only ment, and a 'young person' only when he is of so unruly a character that he cannot safely be sent to a place of detention or of so deprayed a character that he is not a fit subject for detention. In all other cases juvenile offenders may be committed to some place of detention other than a prison for a period not exceeding one month, unless the court decides that it can safely discharge the offender on his own recognisance, or under the supervision of a probation officer, or by sending him to an industrial or reformatory school, or that it can dispose of the case by a fine or sentence of whipping. Provision is also made for detention in places other than a police cell of juvenile offenders until they can be brought before the court. The Act also provides for the establishment of juvenile courts, such courts to be either in different buildings or rooms from that in which ordinary sittings of the court are held or in the same building, but at different times so as to prevent any association with adult offenders. As to the reformation of youthful offenders who have been sentenced to cigarettes to such a person if the detention in a reformatory school and tobacconist has reason to believe that who are convicted of committing a who are convicted of committing a breach of the rules of the school, see BORSTAL SYSTEM. Part VI. of the Act contains miscellaneous provisions, the principal relating to the powers of the education authority to secure the cleansing of verminous children, schooling of vagrant children, pre-vention of the sale of intoxicants to children under five, and the duty of those who provide entertainment to make certain arrangements for the safety of children.

Children, Employment of, see HALF-TIMERS and STREET TRADERS. Children, Societies for Prevention of Cruelty to. The principal of these societies, which was incorporated under Royal Charter in 1895, is asso-ciated with the name of Benjamin Waugh, by whose exertions the London S.P.C.C. was established in 1884. Its object was to discover cases of ill-treated and neglected children. and to institute proceedings against

in the passing to an industrial school, including of the Criminal Law Amendment Act, children mentally or physically defective, is cast upon the local education to Children Act, 1889. These Acts authority. In the case of youthful and the Children Act, 1908 (q.r.), are offenders ordered to be sent to a clear indication of the public recognition.

nition of existing evils, and their pres- $_{\parallel}$ in the same manner are medically inence on the statute book to a large extent destroys the raison d'être of these societies on their protagonist side. Nevertheless there is unfortuside. Nevertheless belief is unoted analysis still considerable scope for their activities in supplementing the work of local governing bodies and the police, especially in the direction of removing children from the influence of drunken parents. In this latter respect the London S.P.C.C. state that practically all the cases of cruelty investigated by them have their origin in drink.

Childrenite, a rare mineral consisting of aluminium iron phosphate. It occurs in orthorhombic crystals. with hardness 4.5 and specific gravity 3.2. It has been found in a few places in Cornwall and Devon. An allied

Childs, George William (1829-94), American publisher and philanthropist, born in Baltimore. entered U.S.A. navy; became a book-store clerk in Philadelphia, 1843; set up as an independent publisher, 1847; became a partner in the firm of Childs and Peterson, 1849. In 1864 he took over the Philadelphia Public Ledger. He wrote Recollections of General Grant, 1885, and Personal Recollections, 1890. His charitable work was very large, and he is perhaps best known by his erection of public memorials to great men, including Herbert, Cowper, Leigh Hunt, Moore, Shakespeare, Milton, Ken, and An-drews in England, and Edgar Allan Poe and Richard Proctor in America.

Child Study includes now anatomy, physiology, anthropometry, and psychology of the child as a child. Rousseau was the first to recognise the fact, that a knowledge of children and their ways is essential to anyone who wishes to reach them. Darwin was one of the first in England to publish observations of the development of a child, and since then the study has been carried out with great zest both here, on the Continent, and in America. Two methods are adopted in C. S.: (1) The individual method, which consists in as full a study as possible of a single child; and (2) the collective method, whereby several children are ex-amined and studied for particular things, and an average or standard drawn up. Many of the results gained have been summarised under CHILD. C. are very accurately known, as a Some further results, however, which government survey of an exhaustive

spected, and the results tabulated and conclusions drawn. The importance of all this cannot be over-emphasised. As a direct result of C. S., kinder-gartens, and infant schools run on kindergarten lines, are now the only type of school for very young children. Play has been pressed into the service of the teacher, and freer and lesscramped movements are used from the beginning. 'Cramming' is being recognised as being terribly harmful, and the deaf, the blind, and the mentally deficient are being trained in a marvellous manner. A third, though not very possible method of C. S., is that which is given when spontaneous writings of children can be got. Since, however, the child is usually writing under the knowledge that his work species containing manganese is known as eesphorite, and occurs in Connecticut.

Childs, George William (1829-94), own memory, the only difficulty, and one which is almost insurmountable. being that of ridding that memory of subsequent interpretations in the light of present knowledge. Several societies are in existence for the study of the child, chief among which are: British Child Study Association, who publish three times a year a magazine called the Paidologist; the National Fræbel Union; and the Parents' National Education Union. For list of books on this subject, see CHILD, EDUCATION, and the following: J. M. Baldwin, Mental Development in the Child and the Race; Edith E. Read Mumford, The Dawn of Character; W. B. Drummond, An Introduction to Child Study; E. A. Kirkpatrick, Funda-mentals of Child Study; W. Preyer, Mental Development in the Child.

Chile, or Chili, a republic extending along the W. coast of S. America, to the S. of Bolivia, between the Pacific and the Andes; it includes also the greater part of the Fuegian Archi-Its existence as a republic may be said to date from 1810, when it declared its independence of the mother country, Spain, though the colonial authority was not finally broken till the battle of Chacabuco in 1817. In 1880 C. annexed Atacama and Tarapaca, including the Lobos Is., and occupied the province of Tacua. In the case of any territorial disputes between C. and Bolivia, the arbitration of Germany is to be accepted. The physical features of was begun in 1848, and carried

many years. Since the eastern ary of C. is, broadly speaking,

lessons in the way of producing bodily the main chain of the Andes, the and mental fatigue. School children western section though absolutely

is everywhere low compared to the eastern portion. The portion of the Andes between 31° 40' and 34° 20' S. lat, is the highest, the average height being about 16,000 ft. The two lighest peaks of the Andes are Aconcagua (23,393 ft.) in 32° 39' S., and Cerrode Mercedaria (22,300 ft.) in 32° S.; other noteworthy mountains are Polleras (20,266 ft.), Tolorsa (20,140 ft.), Juncal (19,360 ft.), and Chimbote (18,645 ft.). The height of the Andes gradually diminishes from about 34°20'S. There are a number of passes over the Andes connecting C. with the Argentine Republic, of which the Argentine Republic, of which the best known are Bernnejo (13,025 ft.), and Iglesia (13,412 ft.), on the Uspallata Road; Pircas at a height of 16,962 ft.; and Valle Hermoso, 11,736 ft. There is a great difference in the breadth of the higher and lower sections of C. at different places. The land above 5000 ft. are and in the property in the land above 5000 ft. are and in the property in the land above 5000 ft. are and in the property in the land above 5000 ft. are and in the property in the land above 5000 ft. are and in the property in the land above 5000 ft. are and in the property in the land above 5000 ft. are and in the property in the land above 5000 ft. are and in the property in the land above 5000 ft. are and in the property in the land above 5000 ft. are also in The land above 5000 ft. extends in some places to within ten miles of some piaces to within ten miles of the coast; whilst in others, notably along the chief rivers, the land under 5000 ft. extends for a distance of over 70 m. inland. In the N. the Chilian portion of the desert of Atacama lies between the coast and the mountains, but to the S. of the desert there are few spaces under 1500 ft. To the S. of 35°, however, a region which rarely reaches this height extends from the coast for an average distance of 60 m. The general formation of this region is as follows: the highest part is nearest to the sea, and rising abruptly from the coast, sinks eastward in terraces to an interior valley, or plain. This interior plain slopes gradually from N. to S. The Andes of C. are highly volcanic in character, and earthquakes frequently occur, the average number of shocks, of varying seriousness, felt at Coquimbo being about forty every year. Perhaps the most destructive earthquake recorded in C. was that of 1751, when the former town of Concepcion was sunk in the sea, and the majority of places lying between 34° and 40° S. were destroyed; on Nov. 19, 1822, the coast near Valparaiso was permanently raised 4 ft. over 100,000 sq. m., and Valparaiso, Tuillota, Casablanca, and Limachi, were destroyed; on Feb. 20, 1835, the rebuilt Concencion was arain destroyed. the most destructive earthquake restroyed; on Feb. 20, 1835, the rebuilt Concepcion was again destroyed, together with Taleahuano; in 1868. Arequipa and Iquique were ruined, whilst in 1875 Iquique was again levelled with the ground. The rivers of C. all flow from E. to W. across the country; even those flowing across the Loreitudinal Interior valler. present slope after the rivers came Filtroya palagonica, another

considerably elevated in some places, into being. In consequence of their direction, the rivers are not of great length, and therefore of no great importance as means of transport. The most important are the quick-flowing Maypu; the Maule, which is navigable for a longer distance than navigable for a longer distance than any other; the Biobio, the largest of all, but not navigable for large vessels in its lower course; the Callecalle, which is the most important for navigation, as it has a good harbour at its mouth; and the deep Maullin, which drains Lake Lianquihue. Owing to the large rejudil of the S. to the large rainfall of the S., many large lakes are there found, notably those of Llanquihue, Chapo, Rauco, and Lago de Todos los Santos, otherwise known as Lake Esmeralda. On account of the conformation of C., extending from 18° to 56° S. lat., the climatic conditions vary considerably though extremes of heat are seldom observed, owing to the influence of the cold Humboldt current. The place in which the greatest extremes are observed is the desert of Atacama: there the temperature varies frequently from 100° in the daytime to 36° at night. On the coast the at inguit. On the coast the temperature rarely reaches a greater height than 90°. The mean annual temperature of Valparaiso is about 59°, that of Santiago 55°, and that of Valdivia 53°. In the longitudinal valley there is a mild uniform climate, the Humboldt current and cool winds from the Andes serving to mitigate the heat in summer, whilst in winter the overcast skies and the winds warmer latitudes serve prevent excessive refrigeration. rainfall is very low on the northern coast, but in the fjord region of the S, it is much larger. At Valparaiso the mean annual rainfall is about 15 in., whilst at Ancud, in Chiloé, it is 130 in. The Chilian part of the desert of Atacama is as destitute of vegetation as the maritime region of Bolivia, and down to latitude 30° S. the coast has no vegetation, though inland some is found at about that latitude. The is found at about that latitude. The regetation of C., which is in full vigour about the latitude of Valparaiso, is remarkable for the large number of peculiar forms which belong to it. A very striking feature of the vegetation of C. is the small number of deciduous trees, when the high latitude of the region is considered. Among the more notable of the Chilleng trees are the Online the Chilian trees are the Quillaia Saponaria, or soap-tree, the bark of which is lined internally with a whitish saponaceous substance; the country; even those flowing across Jubaa speciabilis, a raim allied to the longitudinal interior valley the cocoanut, and yielding a sweet mentioned above do so, which is a sap known as palm-honey; the Fagus proof that the valley received its obliqua, an excellent timber tree; the

good and very numerous timber tree: the Eucryphia condifolia, foliage tree which grows to a great height and blossoms most luxuriantly The apple-tree has in February. been introduced with great success, and bamboos extend for a long way S., being used as fodder for cattle. Numerous and climbing twining plants are found, giving something of a tropical aspect to Chilian vegetation; such are the Mutisia. asteraceous plant with blue flowers, the beautiful red Tropæolum speciosum, and the gorgeous Philesia luxifolia, which has flowers shaped like a bell and of the colour of fire. The region between Valparaiso and Valregion between variances and the divia, which has sometimes been termed the 'Garden of the New World,' is the principal centre of the principal centre agriculture, though in other great strides have been made . science in recent years. principal crop, but maize, oats, hemp,

barley, beans, lentils, peas, potatoes are also grown. The and the olive are also grown; The vine pastures N. of the R. Maule feed immense herds of cattle; the hogs of the island of Chiloé have given it a reputation for hams; and in addition quantities of horses, sheep, and goats are reared. Chilian fauna is not remarkable for variety; pumas are the chief wild animal, and are very de-structive of cattle. The chief of the other animals are the pudu, a small variety of deer, the coypu, or native beaver, the chinchilla, guanaços, and vicunas in the mountain districts, and a variety of fish-otter. Manv varieties of birds are found, among parrots, flamin species of sma

Chilian swan, far the most important mineral found has assumed a mission of the others, not special abundance, the Tamaya:

In the province of Cognimbo.

In the province of Cognimbo. regarded as inexhaustible. also found in fairly large quant

importance is a lignite coal, of which the principal bed lies to the S. of the Biobio to about 37° S. lat.; many other minerals are found in smaller guan"" sulphur, sulphur, zinc. tin, and salt. f Spanish language and physique, though there is a not inconsiderable admixture of native Indian blood. At the time of the Spanish conquest in the 16th century, a native race calling them-

race Araucanians, and when they conquered the Incas they left the former in possession of a state of their own, to which was given the name of Araucania. A portion of this area, along the slopes of the Andes from Copiapo to Chiloé, is still inhabited by them. Other tribes worthy of mention are the Changos in the N., an Aimara tribe; the Aiacaluf in the channels lying to the N. of the Strait Magellan; the Onas and Yagans in Tierra del Fuego; and the Tchuelches, inhabiting part of the mainland of Patagonia. There is a considerable foreign element in C., chiefly Germans in the extreme S .. natives of the Argentine Republic in the N., and French, English, and N. Americans in the middle provinces. The total trade of C. in 1903 was of £14.567,000 under imports. are by far the

with Great Britain. The principal ports for exports are Iquique, Pisagua, and Antofogasta; Coquimbo, paraiso, Valdivia, and Punta Arenas. Valparaiso is by far the most im-portant port for imports, two-thirds of the total entering there, whilst Iquique and Talcahuano come next in importance. There are over 3500 miles of railway linking up the ports with the industrial centres: the railway from Valparaiso to Buenos Ayres which may be mentioned ibises, crosses the Andes at Uspallata (9843 by a tunnel having a length of 6 m. The republic of C. is the

regulated of the republics of S. body and a black head and neck. By America: as an independent state it far the most important mineral found has attained a higher degree of pro-

New World. republic is elected the centre of the industry being by delegates chosen by the people; Copiapo. The only other mineral of his term of office is for five years. The his term of office is for five years. The executive is completed by a council of state, consisting of six departmental ministers and nine other members, nominated by the president. The legislature is composed of a senate and a Chamber of Deputies; the former, consisting of one member for every three, or two, deputies sent by each province, is elected for nine years; the latter, consisting of one member for every 30,000 inhabitants in a department, for three years. The selves Moluche (warriors) occupied finances of the country are in a satis-the greater part of the present re-public of C. The Spaniards called this the foreign debt is being reduced. The

of the state is Roman religion Catholic; there is an archbishop of Catholic; there is an alchement Santiago and bishops of La Serena, Cancencian, and Ancud. Full re-Concepcion, and Ancud. Full religious toleration has, however, been established since 1865. The condition of education in the republic has been improved of late years; there is a university at Santiago, technical and secondary schools, and over 1500 primary schools. Since 1900 military service has been compulsory, and conscription obtains in both the army and the navy. Area of the republic 307,620 sq. m.; pop. 4,000,000. Pop. of Santiago (the capital), 330,000 (1907). See M. R. Wright, Growth of Republic of Chile, 1904; Handcock, History of Chile, 1893.

Chilecito, a tn. of the Argentine Republic in the prov. of and 40 m. N.W. of the cap. of La Rioja in the Famatina valley. Mining is the chief industry, gold, silver, and copper being worked. Wines are also dis-

Cordova by rail. Pop. 4000.
Chi-li, Chih-li, or Pe-chi-li, prov. of China, in the extreme N.E. of China Proper, bordering on Mongolia on the N., Manchuria and the Gulf of Pe-chi-li on the E. Area about 100,000 sq. m. A considerable proportion of the prov. lies beyond the Great Wall. In the N. and W. are mountain ranges containing almost untouched posits of anthracite coal and iron. The rest of the district is a fertile alluvial plain, watered by the rivers Pei-ho, Hun-ho, Lwan-ho, Huto-ho, and Shang-ho, and traversed by the Imperial Canal. Millet, maize, wheat, cotton, sugar, indigo, tobacco, and fruit are grown. The climate is moderate, but much damage is occasionally caused by floods in the plains and hy violent dust storms. There was a severe famine in the province in 1842, and it suffered considerably during the Taiping revolt. Goitre is

to the next; also a period of a thougand years.

Chilianwala, a vil. in the Punjab, British India, 30 m. N.W. of Gujerat. It is chiefly remarkable for the battle that was fought there between the British and the Sikhs on January 13, 1849,

Chilina, or Chilian Snail, a genus of gastropod molluscs representing the family Chilinidæ. The species are resh-water pulmonates with larger pulmonary apertures than are to be found in any others of their sub-order and their visceral commissure is unusually long. They inhabit Chili, S. Brazil, and Patagonia.

Chilka, lagoon in S.W. Bengal, British India, cut off from the Bay of Bengal by a sandy ridge. Its usual area is about 350 sq. m. and its depth only about 6 ft., but at the height of the rains its depth and extent considerably increases. It contains some inhabited islands, and the villages on the coast are engaged in the salt-

working industry.

Chilkoot Pass, a pass about 28 m. long, over the Rocky Mts. in Alaska. U.S.A. This pass, on the route of an ancient Indian trail, was at one time one of the chief means of reaching the Yukon gold fields from the coast of 13 miles from its starting Alaska. point, at Dyea, it reaches a height of 3500 ft.; it terminates at Lindeman, Yukon, Canada.

Chillan, in S. America, cap, of the prov. of Nuble in Chile, 112 m. by rail E.N.E. of the seaport town of Talcaguana. It is a thriving commercial city with trade in cattle, grain, and hand-made lace, situated on the slope of an extinct volcano in the midst of rich agricultural country.

Chillicothe, the name of two cities of the United States: 1. A city in Missouri, the cap. of Washington, about 90 m. N.E. of Kansas City; it is the largest town on the railway between University 12 of the control of is the largest town on the ranway between Hannibal and St. Joseph. It has a trade in coal, limestone, live stock, wool, and hides. 2. A city of Ohio and cap. of Ross; manufactures of carriages, paper, iron, leather, farming implements, and machinery. Chilling, or Chill Hardening, that process of cooling metals rapidly, so that the stin hearms hard leaving

during the Taiping revolt. Gottre is very prevalent in the hilly parts. The that the skin becomes hard, leaving the inner portion soft. Molten iron is the seat of administration. Tientsin and Chin-wang-tao are treaty ports. There is fair railway communication. Pop. about 20,000,000. The Gulf of Pe-chi-li is an extension The Gulf of Pe-chi-li is an extension of portion. Shot are chilled and the soft portion. Shot are chilled and the soft portion. soft portion. Shot are chilled and hardened by being allowed to drop through the air and thence into water. See CASE HARDENING.

Chillingham, a par. township and vil. on the R. Till in N. of Northumberland, 8 m. S.W. from Belford railway station. C. Castle, the seat of the way station. C. Castic, one search the Earl of Tankerville, was built in the reign of Edward III., its park is part of an ancient forcet. Dec (1911) 113.

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2-44), a ie 17th College.

Oxford, 1618; became M.A. 1623, and appointed fellow of the college, 1628. He became a convert to Roman Catholicism under the influence of the Jesuit, Fisher, and went to the Jesuit College at Douay. His godfather, Dr. Laud, hishop of London, persuaded him to leave the Roman Church. He outted Douay and Church. He quitted Douay and studied the claims of Protestantism, and eventually entered into the fold of the English Church. He had very conscientious scruples, and declined to accept a preferment offered to him by Sir Thomas Coventry, Keeper of the claws, on the first. The species are Great Seal in 1635, because he could known as centipedes, some having in not subscribe to all the Thirty-nine fact hundreds of legs, and in diet Articles, and was opposed to the damnatory clauses in the Athanasian Creed. He wrote in 1637 The Religion of Protestants, a Safe Way to Salvation. He finally overcame his scruples and was promoted to the chancellorship of church of Sarum (1638), and became prebendary of Brixworth in Northampbeliever in the doctrine of divine believer in the doctrine of divine right of kings, he took an active part in the Civil War, was taken prisoner at Arundel Castle by Sir William Waller, and died at Chichester. His Religion of Protestants was very popular.

Chillon, a 13th century castle or fortress of Switzerland at the eastern extremity of Lake Geneva, canton of Vaud, 2 m. S.E. of Montreux. stands on an isolated rock connected with the mainland by a wooden bridge. It was long a state prison, but is now an arsenal. Here Bonivard, a political prisoner, was incarcerated in 1530-36. See Byron, Prisoner of Chillon.

Chiloé Islands. These islands off the W. coast of S. America form, with other smaller islands, the insular province of Chili. They are 95 m. long and 35 m. wide. The main island comprises five departments, and these are called Ancud, Chacao, Dalcahue, Castro, and Conchi. Castro, the ancient capital, is a seaport town, and was founded by the Spanjards in 1556 under Garcia de Mendoza. Another seaport, Sau Carlos, is the modern seat of govern-The climate is moist and Timber is exported. The ment. healthy. chief products are potatoes and wheat.

Chilognatha, a division of the Myriapoda, is sometimes considered to be a sub-order of the Diplopoda, and sometimes coincident with it. Special characteristics are the sevenjointed antennæ, three pairs of legs on the thoracic segments, double pairs on the posterior segments, and genital organs opening usually on the seventh of these segments. Two of the genera are the Glomeris or pill-millipede, and Julus or millipede.

Chilon, one of the seven sages, who flourished 620-550 B.C.; the reputed author of the maxim 'Know thyself.' He held the office of ephor; is said to have died of joy when his son gained the prize for boxing at the Olympian Games.

Chilopoda, an order of Myriapods established by Latreille, is characterised by the many-jointed antenne. numerous body-segments—all the last two with one pair of legs, the genital opening occurring on the last segment, and maxilipeds, or poison-

they are predatory. Chilperic, the name of two Frankish kings: Chilperic I., assassinated in 583, was one of the four sons of Clotaire I. He tried to get possession of the whole kingdom on his father's death, but failed. Chilperic II., Son of Childeric II., King of Neustria; battled with Charles Martel.

Chiltern Hills, a range of chalk hills extending partly through the counties of Oxfordshire, Buckinghamshire, Bedfordshire, and Hertfordshire in England. The highest summit, near Wendover, lies 885 ft. above the sea. These hills, reaching from Goring in Oxfordshire to Tring in Hertfordshire, meet and help to form another large chalk system, which contains the White Horse Hills of Berkshire, these again continue eastward, form-

ing the East Anglian Ridge.
Chiltern Hundreds. 'Taking the Chiltern Hundreds. 'Taking the Stewardship of the Chiltern Hun-dreds' is a very familiar parliamentary phrase applied to any mem-ber who wishes to resign his seat. The history of this phrase has arisen in this way: An old English statute declared that no member of parliament, once chosen, could vacate his seat in parliament. This was afterwards amended in 1707, when it was stated that a member could resign. provided he held an office of profit from the crown. Among these offices held by members of the House of Commons, were eight crown steward-ships, but these did not fall within the terms of the statute 1707, for no one holding these stewardships was exempt from parliamentary duties. It was not till the passing of the Place Act in 1742 that the appointment to one of these crown stewardships served as an excuse for resignation.
Only two of these stewardships survived, viz. Chiltern and Northstead
in Yorkshire.

Chilvers Coton, a par. and vil. of Warwickshire, England, 1 m. from Nuneaton. It is mentioned in Domesday as 'Celverdestoche.' The Coven-

holds a disputed place among the Elasmobranchs, to which the sharks and rays belong, and with the Callo-rhynchus forms the order Holocephali. They are distinguished by having four gill-clefts covered by an operculum, a few large teeth, no spiracle, one anal and two dorsal fins, and a long thin tail prolonged into a filament. The species inhabit deep filament. The species inhabit deep water in Europe and America; Ch. Water in Europe and America; Ch. Colliei of N. America is known as the sea-cat, and Ch. monstrosa the king of the herrings, is an ugly British species about four feet in length, which is frequently captured by herring-fishers.

Chimæra (Gk. χίμαιρος, a yearling goat), a mythical animal. According to Homer (Iliad, bk. vi.), it was a fire-breathing monster, with the head and fore part of a lion, the body of a goat, and the hind quarters of a dragon. According to Hesiod, it was a three-headed monster, with the head of a lion, a goat, and a dragon. It was slain by Bellerophon, with the help of Pegasus, in Lycia, where it had wrought much havoc. The origin of the myth has been traced to the volcano of the name of Chimera, near Phaselis, in Lycia, and it is supposed that the summit of this mountain was frequented by lions and goats, and the marshy lead of this been by reportery land at its base by monstrous serpents. The C. has often been presented in ancient and modern art. It is also used as a heraldric symbol of shields. The term is often used figuratively to denote an unnatural imagining of the fancy.

Chimaphila Corymbosa, or Wintergreen, is a small evergreen woody plant of the order Pyrolaceæ, and is the Pyrola umbellata of Luneus. It grows commonly in the pine-forests of N. Europe, N. America, and Asia, and the leaves are valued as possessing diuretic properties joined to a tonic power. Ch. maculata, the spotted wintergreen, is also used medicinally.

Chimborazo, a mt. in S. America. one of the highest peaks of the Andes in Quito. The mountain is coneshaped, perpetually snow-clad, and rises 21,424 ft. above the sea. Many attempts have been made to climb to its summit, and Whymper succeeded in gaining the top in 1880. The Andes form a very irregular chain, and stretch from the Paramo de las Papas to the Paramo de Loga in the S. of

try Canal passes through the parish. railway to Huaraz, which is 172 m. Pop. with Nuneaton (1911), 2505. to the S.E. It possesses a good Chimæra. a genus of fishes which harbour in Ferrol Bay. Many remains of a very early date have been found in the neighbourhood.

Chimes, the ringing of bells in succession in a belfry or church tower. The bells may number from five to twelve, and are rung by performers, one to each bell. The performer holds a rone attached to his clapper, and by a swinging movement of his arm causes the clapper to ring against the inside of the bell. Carillons are rung by striking the outside of the bell with a hammer. The place of the per-former, who sounded octaves of notes by striking keys similar to the pedals of an organ, has been superseded by machinery. The carillon at Ghent has forty-eight bells. See BELL.

Chimkent, or Tchimkend, a tn. of Asiatic Russia. It is in the province of Syr Daria, on one of the sub-tributaries of the Syr Daria R., about 70 m. N.N.E. of Tashkend. Strategically and commercially the town is very important, for it stands at the junction of three great trade routesjunction of time great trade routes— from Fergana, Bokhara, Tashkend, and Samarkand on the S., from the Aral Sea and Orenburg on the S.W., and from Vyernyi, Semiryechensk, etc., on the N.E. This point is at the western end of a valley which separates the Alexander range and the Ala-tau (Talas-tau). It was taken by Russia in 1864. Consumptive patients take the koumiss cure here.

Chimney, an enclosed passage, constructed in a wall, for the escape of smoke from a fire-place or furnace, and for the purpose of producing a draught to excite the combustion of the fire. Hot air is lighter than the cool air of the atmosphere, and consequently the air, heated by the fire, rises, pushing the smoke upwards. The draught caused by the escaping current of air is in proportion to the size of the C., a greater draught being produced by a high C. than by a small one. As the draught draws the fire and causes intense heat, the C. stalks attached to factory furnaces are built attached to factory furnaces are omic to a great height. As an example, the St. Rollox shaft, Glasgow, may be mentioned, which stands 455½ ft. high. The usual proportions are for the height to be ten to fourteen times the diameter at the base, and the diameter at the summit twothirds of the lower diameter. Cs. are usually constructed so that the draught and the smoke can be regulated by dampers. In manufacturing towns regulations have to be made Ecuador.

Chimbote, a seaport of Peru in the dept. of Ancachs, about lat. 9° 10' S. smoke. For the construction of Cs., The town is the starting point of the consult Spon, Dictionary of Engineer.

ing (1874-81). Cs. are comparatively modern. In Greek and Roman houses it was usual to have a hole in the roof for the escape of the smoke. Cs. were first introduced into England, pro-bably from Italy, in the late 12th century. At first they were made with wide apertures which, in practice, have proved very inconvenient, as the inlet of large currents of outer air causes the C. to smoke. Ornamental chimney-pieces were a great feature of late Gothic and Elizabethan styles. In primitive Cs. the funnel sometimes projected into the room, but later the chimney-piece, with the fireplace round it, was regarded as one of the chief ornamental features of a Carved room. wooden chimneypieces. adorned with niches and columns, were carried up to the celling, the lower portion being fitted with scats. may be seen shall Castle u Franc at Br

in general use for chimney-pieces is marble.

Chimney-sweeper. Formerly young boys were employed to climb up chimneys for the purpose of cleaning They were subjected to such fearful cruelties by their masters that the matter was brought before parpassed regu-

Cs. in 1840, These laws

enacted that no person under the age of twenty-one might ascend or de-seend a chimney or enter a flue for the purpose of cleaning it; that no child under sixteen might be apprenticed to the trade; and that every C. must buy annually a licence costing 2s. 6d. The irritation of the soot frequently caused a disease known as C.'s cancer. In 1805 George Smart Invented a 'chimney-sweep' which superseded elimbing boys. It is a stiff, radiating brush of rattan, fixed on to a long rod, which consists of jointed sections of cane.

Chimoto, or Chimiyou, a river of Equatorial Africa, which flows first S.W., then N.W. to N., finally empty-ing itself into the lake of Victoria

after a course of 125 m.

Chimonanthus, a small genus of Calycanthacere, contains only two species, both of which are natives of China and Japan, and their varieties are known as Japanese alispice. nilens is a beautiful evergreen, but Ch. fragrans is a shrub which drops its leaves in November. The flowers come out about Christmas time or early in the New Year upon the naked branches, yield a delicious and fragranco.

Similde, known technically as Troglodyles, or Anthropopithecus. apes are closely related to the gorillas, but they have longer limbs, and there is little difference between the sexes, except that the female is the smaller. They inhabit trees, in which they build night-shelters, and all are build night-shelters, and all are natives of Africa. Unlike the gorillas they are gentle and playful, and when kept in captivity they exhibit much intelligence; unfortunately, the climate of northern lands proves too much for them after two or three years. Their diet consists chiefly of fruits and nuts, but the ('s. are also fond of animal food. See T. H. Huxley's Man's Place in Nature, 1863,

China, or more accurately the Chinese Republic, is an extensive dominion of Eastern Asia of which C. Proper constitutes the principal portion. For centuries this dominion has been known as the Chinese Empire, and it is hereinafter referred to as such, although the form of government is now republican. It also includes a number of dependencies or subject territories. viz. Manchuria, Mongolia, Tibet, E. Turkestan, and the small territories between Mongolia and Tibet. Its most northerly point is about 53° 30 N. lat., while its southern extremity, the island of Hainan, is in lat. 18° N. From W. to E. it extends over more than 60° of longitude, from 74° E. to 135° E. This yast extent of territory makes the Chinese empire inferior in size only to the empires of England and Russia. Particulars as to the exact size and population of the empire cannot as yet be obtained,

at about 400,000,000. C. Proper occupies the S.E. portion of the empire, and is how and pire, and is bounded on the S. and S.W. by Cochin C., Siam, Burmah, and Tibet; on the N.W. by Turkestan; and on the N. by Mongolia. On the E. is the Pacific Ocean, known by different names at various parts of the coast. The country of Korea, on the N.E., was once a dependency of C., but the suzerainty was not much exercised during the middle of the 19th century, and in 1895, after the disastrous war with Japan, the district fell under the control of the latter country. At the same time Formosa became part of the Japanese empire. The Chinese empire has been characterised by exclusiveness from the beginning, and the practice of this feeling has been rendered easy by the geographical situation. The em-Chimpanzee, the popular term for pire is cut off from the rest of Asia by the genus of anthropoid Apes, or high mountain ranges and tablelands. Except by the sea, it was difficult for | Chinese Turkestan, bound Tibet on

m., from Chusan to the Bay of Canton, mostly high, bold, and rocky. A number of low, sandy islands form the coast near Canton, westward of which there is an alternation of low and bold shores. The whole coast,

counting only the larger promontories and inlets, extends over about 2250 m., though if all the indenta-tions be accurately estimated, the distance would be doubled. A con-

siderable portion of C. Proper is moderable portion of C. Proper is covered with mountains, and the whole surface may be divided into the mountainous country, the hilly country, and the great plain. The mountainous country comprehends

more than half of the whole, and the meridian of 112° E. may be con-

sidered its eastern boundary, but to the N. of the Hoang-Ho it extends as far as 114°. The hilly country lies to

iar as 114. The limby country hes to the E. of 112° E., and extends N. to the Yang-tsze-Kiang. The Great Plain occupies the N.E. part of C. It extends in length some 700 m., from the Great Wall. N. of Peking, to the confluence of the rivers Yang-tzse-Kiang and Kan-Kiang. Its

width varies from 150 to 250 m. in the northern half, and from 300 to 500 m.

in the southern half; the total area is about 210,000 sq. m. The western end is the more fertile part, and it was to protect this from the inroads

of nomadic Tartars that the Great Wall was erected about 200 years B.C. This marvellous work extends over mountains and rivers for over

1400 m. The main substance of the wall is earth or rubbish, retained on each side by a strong casing of stone and brick, and terraced by a plat-

as 25 ft. The mountain system must Chi-Li, N. of Laiu-Chau Bay, by be considered in relation to the surseveral mouths. Its chief tributary is

and the In-Sian, which are a tinuation of the Thian-Shan Mts Siberia and Chinese Turkestan. same range then extends N.E. as

Khingan Mts., entering Manch
Alding country
and ending at the Amur R. The is in continual danger of inundation.
Altyn Tagh Mts. traverse the S. of As a result, there are no large towns

Except by the sea, it was difficult for foreigners to penetrate. The coastline is almost all that of C. Proper, though has a shor was a shor wa

mountains gradually diminish in height as they move eastward, and become covered with the loess, which forms so conspicuous a feature of N. China, and which contributes so greatly to its fertility. Almost paral-

lel to the Kwen-Luen, and forming a branch thereof, comes the Tangla range, which extends E. as the Ta-na-

Shan. A southern branch of the Fu-Niu-Shan is the Hwai-Yang-Shan. Offshoots from the Tangla range, itself a branch of the Himalayas, and from the continuation of the main Himalaya range, run almost due N. and S. along the S.W. boundary,

chiefly through the provinces of Sze-Chwan and Yun-Nan. However, the most extensive range of southern C. is the Nan-Ling or Southern range, a spur of the Himalayas. It com-

mences in the province of Yun-Nan and runs N.E. in several parallel ranges to the Pacific, where it ends at the mouth of the Yang-tsze-Kiang.

These ranges run through most of the southern coast provinces. The rivers of C. form one of its most conspicuous features. In the N. they usually bear the name Ho, in the S. that of Kiang. There are numerous small independent

rivers, but most of them fall into the Hoang-Ho and the Yang-tsze-Kiang, two of the largest rivers of the globe. They rise in close proximity in off-

shoots of the Kwen-Luen range in Tibet. The Hoang-Ho, or Yellow R., flows for a time parallel to the mountains, and then makes a large sweep to the N.E., through the province of Kan-su. Its curve then follows the Ala-Shan range into Mon-golia. Turning due S., it then forms

form of square tiles. It commences the boundary between the provinces at the Gulf of Liao-Tong, whence it of Shensi and Shan-si. At the S. of extends westward to the Chia-yu the latter it turns due E. again, and the boundary between the provinces of Shensi and Shan-si. At the S. of

be considered in relation to the sur-several mouths. Its chief tributary is rounding dependencies. The N. of the Wei-Ho, which rises in Kan-su. C. proper is bounded by the Ala S. — the Wei-Ho, which rises in Kan-su. 2500 m. long, o navigation.

of the part of Fung having ess than nine

to empty itself by an estuary into the Eastern Sea. This river is the chief waterway of C. Its total length is waterway of C. Its total length is nearly 3000 m., and along its banks are many flourishing cities, among which may be named Han-kau, Wuchang, Ngan-King, and Nan-King. The river is navigable by large steamers for the last thousand m. of

on this part of its coast. The Yang-hends part of the plain and the tsze-Kiang also rises in Tibet, and peninsula of Shan-Tung. Chief towns. flows in a S.E. direction as the W. Tsi-nan, Yen-chau, and the British boundary of Sze-Chuan. It makes a port of Wei-hai-wei. (3) Kiang-Su semicircular bend at the S. of this province, and, after a tortuous course try on both sides of the Imperial into the Hu-peh it turns to the S.E., Canal. It contains the cities and towns then to the N.E., then S.E. again, of Nan-king, Yang-chau, Hsu-chau, and finally runs in a N.E. direction, and Shang-hai. (4) Ngan-Hwei, on the gently itself by an extrawrights the hoth dides of the Vernet when the states of the states includes the low and swampy country on both sides of the Imperial Canal. It contains the cities and towns of Nan-king, Yang-chau. Hsu-chau, and Shang-hai. (4) Ngan-Hwei, on both sides of the Yang-tsze-Kiang has the chief town. Ngan-King. (5) Ho-Nan, on the western marrin of the plain. Chief towns. Kai-feng and Ho-nan. (6) Hu-Peh, in the centre of the plain, is one of the most fertile provinces, Chief towns, Wu-chang, Han-kau, Han-yang. Hsiang-yang, and King-chau. (7) Che-Kiang, in the S.E. of the plain, is the chief green chang, Ngan-King, and Nan-King. The river is navigable by large steamers for the last thousand m. of its course. Its chief tributaries on the is thousand m. of its course. Its chief tributaries on the is the same of the most fertile than the Kin-Kiang, franking, and the Han-King, on the r. b. the minor Chinese rivers, of which the Canton R. or Si-Kiang need be minor Chinese rivers, of which the Canton R. or Si-Kiang need be minor Chinese rivers, of which the Canton R. or Si-Kiang need be minor Chinese rivers, of which the canton R. or Si-Kiang need be rovince of the Che-Kiang, and extends to Tien-tsin in Chili, where it joins the Pai-Ho, and thus gives direct communication with Tung and Peking. When the canal was in good of its maker, Kublai, the first soverign of the Yuan dynasty, in forming a communication between N. and S. China. It has now been largely experied by steamer routes along the coast, and has been allowed to fall into disrepair. The rest of C. is also intersected with many canals, which connect various rivers and lakes. Parts of the country, indeed, are a veritable network of water ways. There are many lakes, but these are not on so large a scale as the rivers. Three only need be mentioned: (1) The Tung-ting-hu, on the Yuen-Kiang, about 250 m. in circumfering-the route of the province of th

those by the Pari-yong and Karkang-C. to Russia runs from Peking through Mongolia near Kiakhta on the Si-Another route, the berian frontier. importance of which is growing, runs from Han-kau through the N. of Kan-su, ultimately reaching Orenburg. The Great Central Asian Trade Route, with a total length of nearly 3500 m., runs from Peking to Kash-

the most north-westerly province, is terrile and thinly peopled. Its chief town is Lan-chau.

Climate.—The climatic conditions naturally vary considerably over so large a stretch of country. In the lofty Tibetan plateau and the less elevated plains of Mongolia, the climate is exceedingly dry, and is marked by great extremes of hot and cold. The basins of the two great irvers, being nearer the Pacific, are moister and more equable. In this form November to February, the remaining months, particularly May, being extremely wet. The rainfall is maining months, particularly May, lines and branches are now in course being extremely wet. The rainfall is of construction throughout heeastern of a copious tropical nature. Generally speaking, C. is a cold country in comparison with European terrimunication with the capital, and tories in the same latitude. From there is also connection of this kind July to September, however, the with Burna and Russia. In 1896 a weather is intensely hot, and the heat is accompanied by typhoons, which was established, and serves all the are much dreaded for their violent ports and important towns. The and devastating effects.

Royles, railroads, etc.—C. is inter-received Western civilisation to this Routes, roilroads, etc.—C. is inter- received Western civilisation to this sected in all directions by roads and extent, are essentially an agriculcanals, but these are kept in a bad tural people, and the fertile nature of state of repair. They are, in fact, not the country aids their own assiduous kept at all, as the government spends lefforts. Wheat, barley, millet, and nothing for this purpose. The roads other cereals are cultivated mainly are mostly mere tracks, but such as in the N., while in the S. attention is they are they have been used for cen- chiefly given to rice. The fora and turies. Twelve of the ancient trade- fauna are both that of the temperate routes have been used from time im- zone, so most of the common Euroroutes have been used from time imroutes have been used from time imroute from Peking to Lhasa,
from which town there are further regions, the southern fruits, such
extensions to India and N. Tibet. The las oranges, pomegranates, peaches,
whole length of the Himalayas is plantains, pine-apples, grapes, and
crossed by numerous passes, which the sugar-cane flourish well. The tea
make the transit from Tibet to India
plant is extensively cultivated in the
easy. The two most convenient are southern and western provinces. The
those by the Pari-yong and Karkany. use of tea as a beverage was once la Passes. The chief trade route from little known, but it is now universally used throughout the country. larger and more ferocious descrip-tions of carnivorous quadrupeds are not common in a country so well peopled and cultivated. The Bengal tiger sometimes appears in the forests of Yun-Nan, but this is rare, while the lion only occurs in sculpture. Old writers also speak of gar. The Chinese portion passes the rhinoceros, tapir, and elephant as through the provinces of Shan-Si, common in C. Cattle, sheep, and Shen-Si (Si-ngan), Kan-Su (Lan-kan), and thence to Hami, Uruntsi, and Kashgar. The laying down of railways was started about 1870, the first line to be opened being from Shanghai to Wu-sung (12 m.). But the opening of this line in 1876 caused after the fourth generation. The culsurch trouble that no work was re-tivation of only in its 2 college. such trouble that no work was re-tivation of opium is a Chinese insumed until the nineties. Then a dustry which is rapidly growing in northern line was constructed through extent, in spite of the large imports Manchuria to join the Russian Trans of that drug brought from India. Siberian line. Railway construction But if the Chinese make the most of then went on speedily, and in 1905 the agricultural advantages of the nearly 3000 m. of line were open for country, they have almost totally

China

neglected its great mineral wealth. The greater part of this wealth lies in the coal-fields, but up to this time hardly any progress has been made in the working of them. The richest fields lie in Shan-Si (E.) and Hu-nan (S.). The former of these, an anthracite field, has an area of nearly 15,000 sq. m., and the western half of the same province has even richer stores of bituminous coal. Almost the whole of the south-eastern Hu-nan has coal beneath the surface, but in parts it lies too deep to be mined. The provinces of Sze-Chwan, Kan-Su, Chi-Li, and Shan-Tung also contain vast stores of this precious mineral. Iron-mining has been steadily carried on for thousands of years. but only those ores which could easily be extracted and smelted by primi-tive methods have as yet been utilised. It is probable that the stock is very great. In Manchuria, coal and iron lie close together, and here the industry is now rapidly developing. There is much from in Shan-Si, and some in Hu-nan; in the latter province some lead is found. Gold is obtained chiefly from the streams in Sze-Chwan, and it is also in this province that copper is principally mined. Yun-nan is a rich mining province, and produces tin, copper, iron, lead, and silver. The last-named mineral is also mined in Hu-nan. The government has now become fully conscious of the country's mineral wealth, the first steps in the development of which were it is almost the extent to

Commerce c Chinese, having behind them more centuries of continuous development and civilisation than any European power, naturally show many of the inventions upon which we most pride ourselves at an early date. Printing by means of movable type was known in C. at an early date, and there are still Chinese books of this kind extant which were printed long before the time of Gutenberg. However, this system of setting up type, which is found so useful in languages where the number of letters is strictly limited, is less so in such a language as Chinese, where there are some thousands of characters, and printing from carved blocks has been much more favoured. The making of paper also goes back some centuries before exclusive of bullion, in recent years:

the Christian era. The Chinese excel especially in routine work requiring great patience and technical skill but no originality. Their carvings and engravings on wood, metal, stone, ivory, and crystal, their gold and silver work, lacquer work, and bronze casting are deservedly world-famous. Foreign methods have now been in-troduced into their manufacturies, and much is done by machinery. Iron works of all kinds, wool and cotton factories, flour mills, match fac-tories, etc., have all been introduced. Tea was originally the principal Chinese export, but owing to the competition of Indian and Cevion teas it fell rapidly. An improvement is noted from 1905 onwards. Tea is especially cultivated in the southern and west-Kien, Hu-Peh.

-Kiang, Ngan-nd Sze-Chwan. silk industry. through it is not yet in as prosperous a condition as it might well be. However, 27 per cent. of the world's supply of silk now comes from China. In the basin of the lower and middle Yangtsze-Kiang much cotton is grown, though the exact quantity cannot be though the exact quantity cannot be estimated. Opium was grown to an alarming extent a few years ago, in spite of the fact that this drug was also one of the chief imports from India. In 1881 the value of the opium grown in C. was estimated by Sir R. Hart at £8,400,000, and its cultivation continued to extend. In 1906 extrictive measures were introduced. restrictive measures were introduced, and some diminution is now visible. In May 1911 an agreement was made with the British government by which the import of opium from India was also reduced. It is expected that the import will be almost nil by 1915. C.'s foreign trade is a development of The Portuguese the last century. established a trading port as early as 1522, but in the course of centuries, there was no sign of change in the government's attitude of suspicion and hostility to foreigners. All official recognition and protection was re-fused to traders until 1842, the year of the treaty of Nan-King. Since that time the number of treaty ports,

	1906	1907	1908	1909	1910
Net imports Exports	£ 67,523,618 38,916,838	£ 67,664,222 42,961,863	£ 52,600,730 36,888,050	£ 54,477,665 44,139,689	62,331,472 51,273.654

The following tables (from the same tries for 1910, and (2)'the chief imsource) show (1) the trade by coun-ports and exports for the same year:

(1)	Imports from	Exports to	Total trade
	£	£	£
Great Britain	9,552,267	2,518 133	12,070,400
Hong-Kong 1	23,085,393	14,637,956	37,724,349
British India	5,918,334	610,520	6,528,854
United States of America	3,338,890	4.347.220	7,686,110
		1.796.294	4.673.160
Germany	2,876,856		
France	371,719	5,227,830	5,599,549
Belgium	1.555.131	880.645	2,435,776
Italy	68.345	1,457,640	1,525,985
	2.160,460	6,188,105	8,348,565
Russia and Siberia .			
Japan	10,334,017	8,294,331	18,628,348
Korea	320,717	354,015	674,732
			:

(2) IMPORTS		Exports		
Opium . Cotton goods Woollen goods Metals . Cigarettes Coal and coke Oil, Kerosene Rice	# 7,460,263 17,594,511 833,359 2,545,660 929,287 1,103,467 3,010,406 4,216,825	Beans and bean-cake		

Shipping and navigation.—The total number of vessels which entered and cleared Chinese ports during the year 1910 was 219,810, with a total tonage of 88,776,689. Of these 28,000 of 34,253,439 tons were British; 3766 of 4,923,492 tons were French; 1286 of 725,279 tons were American; 5361 of 7,060,521 tons were German; 31,197 of 18,903,146 tons were Japanese; and 146,175 of 19,597,822 tons were Chinese.

Currency.-The coinage of C. has varied considerably during the ages, and even at the present day there is no approach to conformity either in money, weight, capacity, or length measures throughout the country. Hitherto the sole official coinage and the monetary unit has been the cop-per cash, of which 1000 should equal one haikwan (or customs) tael. In a

has recently been issued freely from the provincial mints. The dollar now circulates through all the provinces, and notes for eash are common. In

ò

In 1910, 17,325,867 lbs. of tea were 1910 the haikwan tael was equal in imported into Great Britain from Value to $32 \frac{1}{7}d$. By the Convention Treaty of 1902 with Great Britain, C. pledged

> dard nat empire.

in 1908, of 98 touch, weighing one treasure-scale tael (or oz.), the unit. In 1910 this decree was cancelled and a further edict established the silver dollar of '90 touch, weighing '72 treasury-weight tael, as the new unit. Similar regulations were made to secure uniformity in the coins of less value. The same decree brought all mints under the control of the central government, instead of leaving them to the local viceroys. The principal weight measures are the liang or tael (11 oz. avoirdupois), of which sixteen make one chin or catty (11 lb. avoirdupois); 100 chin make one tan or picul=1331 lbs. These measures are also generally used for liquids. The chih of $14\frac{1}{16}$ English inches is the legal standard for length.

Finances .- C. first issued a budget in 1910 for the year 1911, and according to this the total revenue is 297,000,000 taels, and the expenditure 376,000,000 taels. The Senate,

¹ The imports into C. from that colony come originally from Great Britain, Germany, France, America, Australia, India, the Straits, and other countries, and the exports to Hong-Kong are similarly passed on.

however, cut this down till a surplus now consists of six cruisers (the of 3,500,000 taels was given. The largest, Hai-Chi, is 4300 tons, and chief sources of revenue are the land tax. the tea and salt taxes, the produce of the government lands, the likin, and the customs. Expenditure chiefly takes place in the repayment of loans on the army and navy and

on communications. Government.—Until Feb. 12, 1912. C. was a monarchy, in practice almost absolute. Since that day it has been a republic. The title of Manchu emperor, however, is still retained by the late Chinese emperor, P'u-yi, who abdicated on Feb. 12, 1912. He was the tenth member of the Ta Ch'ing Ch'ao (Great Pure Dynasty), a line of Manchu origin dating from 1644. Under the monarchy the imperial power was chiefly autocratic, and government was carried on by decrees, edicts, etc., published as a general rule in the *Peking Gazette*. Many changes were made at the time of the Revolution. A cabinet was substituted for the old Grand Council, Grand Secretariat, and Govern-ment Council; the Cabinet being composed of a Prime Minister, two Ministers, Associate the várious

Foreign Finance; (6) Marine

(1) marine ture, Wo
Posts and Communications; (10)
Colonies. There are also a large number of minor boards and offices.

Army and navy .-- After the disastrous war with Japan in 1900, the reorganisation of the Chinese army was rapidly taken in hand, and in 1901 the original national army and the force of the Eight Banners was swept away, and an attempt was made to organise a fresh army in two divisions, the Northern army and the Southern army. Fresh edicts were issued in 1905 and 1907 which carried issued in 1905 and 1907 which carried this plan out in fuller detail. The new army is on a kind of conscription basis, but great willingness to serve is shown everywhere. There are thirty-six divisions of the army which are finally intended to consist of 10,000 men apiece. A troop of Imperial Guards was organised in 1909. The fighting condition of none of the troops is at present at a very high standard. For centuries the military profession has been despised among the Chinese, and to secure any change the Chinese, and to secure any change it has been necessary for the highest officials to take an active part in the new military organisation. The old Chinese navy was entirely wiped out

steams twenty-four knots original speed), various old vessels, some torpedo-boats, and some new Japanese-built gun-boats._ Two of the

....ly uninstructed. For many centuries there has been a national system of education, dealing only with the study of Chinese literature and history, but this was abolished in 1905, when the system of examinations giving entrance to state employments. which this training was preparatory, was also abolished. About 1870 an imperial university was founded at Peking, chiefly for the teaching of foreign languages. There is a similar establishment ar Tien-tsin, and a union medical college at Peking. There are now colleges giving Western education in many towns.

Population .- The table on p. 594 gives the populations of the various provinces as estimated by the Chinese government for the purpose of apportioning the indemnity to the Powers. It is to be noted, however, that the Associate Aministers, the various It is to be noted, however, that the ministers of state, and the heads of national census of 1911, estimating various boards. A Privy Council was also forme a grand total of 312,400,590. The on by the results of provinces are also given, with the population per so. m. The populations of the outlying dependencies may be roughly estimated as follows: Manchuria, 20,000,000; Tibet, 6,500,000; Sin-Kiang (i.e.

ligion), Buddhism, and Taoism, are officially recognised by the Chinese government. Confucianism is a moral system which definitely refuses in-tercourse with the unknown, and emphasises the duties of the present life. Confucius permits ancestor-worship, but it cannot be said that he himself is worshipped. Taoism, taught by is worsinppea. Taoism, taught by Lao-tse, a contemporary of Confucius, is an elaborate rationalistic philosophy. On the introduction of Buddhism, Taoism took over in a slavich techion, all the convention of the contemporary of slavish fashion all the ceremonial of the latter cult, and the two are now hardly distinguishable. Buddhism entered C. in the 1st century A.D., and spread rapidly in a somewhat new form throughout the country. It is, however, despised by the educated classes. Mohammedanism was introduced in the 7th century A.D., and spread with such success that there are now 20,000,000 adherents of this faith in C. A large native literature in the war with Japan. The navy has grown up around it. Christianity

was introduced by the Nestorians at ently, of late origin. In 2205 B.c. the beginning of the 6th century, but begins the Hia dynasty, of which the died out after flourishing for a short first emperor, Yū, came to the throne time. In 1247 the first Catholic missuscessor to Shun on account of his time. In 1247 the first Catholic missionary, Friar John of Carpini, ensured C., and in 1581 the Jesuit. Friar supposed to continue till 1766 B.c., Ricci, made many converts. The supposed to continue till 1766 B.c., Roman Catholic faith has now over type of the bad king, was overthrown, a million adherents, while Protestantism has about 100,000. No Protestantism has about 100,000. No Protestant mission entered the country before the 19th century. The emperor and the state officials form the state officials form the the contemptible tyrant Chousin in hierarchy of the Confucian code, and in 122 B.C. With the next dynasty we begin to reach the grounds of true History.—No trace is found in history. The period of the Chou ancient Chinese literature of any dynasty forms, indeed, one of the tradition on which a theory might be classical epochs of Chinese history, founded as to the original source of Wu-wang, the first emperor, aided by begin to reach the grounds of true

Province		Area, Eng.	Pop.	Pop.persq.m.
Chi-li Shan-tung Shan-si Ho-nan Kiang-su Ngan-hwei Kiang-si Che-kiang Fo-kien Hu-peh Hu-nan Shen-si Kan-su Sze-chwan Kwang-tung Kwang-tung Kwang-tung Kwaig-tan		115,800 55,970 81,830 67,940 38,600 54,810 69,480 36,670 46,320 71,410 83,380 75,270 125,450 218,480 99,970 77,200 67,160 146,680	20,937,000 38,247,200 12,200,16,500 13,980,235 23,670,314 26,532,125 11,580,692 22,876,540 35,280,685 22,169,673 8,450,182 10,385,376 68,724,890 31,865 251 5,142,330 7,650,282	172 683 149 362 362 382 3194 492 266 1111 814 319 314 319 814
Total .		1,532,420	407,253,029	Average 266

human race, and this shows no signs of any migration. After the time of P'an-ku, the first man, they tell of we must describe as feudal. reigns of whom most of the great ad-2852-2738 B.C., but he is regarded by many as a supernatural and semimany as the human being. Following min, the forming with him the group known forming with him the group known free Emperors, come the first forming with him the group forming the first forming

the race. The Chinese have their own | his brother, Chou-kung, set to work traditions as to the history of the to weld the disunited members of the country into a solid whole. In doing this he made use of a system which ten periods of sovereigns, to the brought peace and prosperity to the whole land. Agriculture improved, vances in civilisation and culture are everywhere great public works were assigned. The first emperor of whom constructed, the nonadic life came to a detailed account is given is Fu-hi, an end, and the foundation of the whose life-time tradition fixes as political system was laid. Literature and the arts flourished during the whole Chou period. The emperor was Following him, and regarded as the son of heaven, and became the mediator as 'The Three Emperors,' come people reverenced as representative Shon-nung and Huang-Ti, carrying of heaven, and who at the same time stery down to the 24th century sacrificed and acted as high priest for B.C. Immediately following come the nation. The outlines, at any rate, Yan and Shun, who are regarded by of the reigns of the thirty-five sovergive of the close of the Chou dynasty are Yan and Shun, who are regarded by of the reigns of the thirty-five sove-popular Chinese history as types of reigns of the Chou dynasty are perfect emperors. On their heads are correct, and it is probable that the Reaped up piles of virtues, all, appar- details are also mostly trustworthy.

One, at any rate, has been tested. ful rebellion which had brought this The record is given of an eclipse about, and the former prince came to which occurred in the reign of Yu-the imperial throne under the title of wang, and astronomers have calculated that the date given for this is founder of the Han dynasty. After perfectly accurate. The date of the this period the Chinese political systems, Aug. 29, 776 B.C., is, howelf, the control of the chinese political systems. ever, generally considered as the first certain historical point in Chinese history. During the century immediately following, disintegration set in, and the kingdom fell into five states, the period being known as that of the Five Leaders. The fortunes of each state varied considerably year by year, but the state of Ts in, on the western border, generally remains the most prominent. This was followed by a period of still greater anarchy and internecine strife known as that of 'The Contending States.' In the midst of this disordered time come the three great Chinese sages, within a century or two of each other. First comes Confucius, born 551 B.C., the first historian of his country. It was he who united all the traditions of government and conduct handed down through the ages, and welded them into the system of morality which his country has preserved which his country has preserved since. He lays particular emphasis on the centralisation of authority, that being a particular need of his age. The father has absolute authority over his family, and the emperor is the father of the state. Lao-Tze (Laocius) and Mencius also belong to this period. The Chou dynasty was now very weak, and the influence of Confucianism was not strong enough to secure unity. The king of Ts in made war upon the Emperor Nanwang, and with him the Chou dynasty ended in 256 B.C. For a time there was no emperor, but in 249 B.C. the Ts'in dynasty, from which the name of C. is derived, had its beginning. Chwang-siang-wang, nominal the founder of this dynasty, died in 246 B.c., and was succeeded by Shi Hwang-ti, the first of the 'universal emperors.' This emperor set himself to do away with the feudal system, and to do this he beheaded some hundreds of the scholars, among whose ranks the system found its chief supporters. To him is attributed the building of the Great Wall, and he is also said to have made many canals, etc. For many centuries the Chinese had been engaged in warfare with the Hiung-nu, probably connected with the Huns, and Shi Hwang-ti led a successful expedition against this tribe, driving them into Mongolia. He also extended the empire southward as far as the Yang-tsze-Klang. On the failure of the Ts'in dynasty, war broke out between Liu Pang and Hiang-Yu, two leaders of the success-

ibility, and follow no lasties are chronicled, not one of which lasted for more than three centuries. period of the Hans was one of great progress. Shi Hwang-ti, in his enmity against the literate classes, had ordered the destruction of all the books, except those on ordinary sciences, and an effort was made to repair the effects of this wholesale destruction. The system of competitive examinations, which lasted until the 19th century, was now instituted. Except for successful campaigns with the Hiung-nu, the empire remained at peace. In the reign of mained at peace. In the reign of Wu-ti (140-86 B.C.) the power of the Tartar marauders was broken, and eastern Turkestan was made subject to the emperor. Many states on all sides were also absorbed, and the Han period ranks as one of the greatest epochs of Chinese national prosperity and expansion. The Chinese—especially those of the N.—still rejoice to call themselves the 'sons of Han.' To this dynasty, sons of Han.' To this dynasty, which ended in A.D. 220, succeeded an epoch of misrule and disturbance, that of the Three Kingdoms, which that of the Three Ringuoms, which lasted for forty - five years. Then the dynasty of the Western Tsius was established by Sz-ma Yen, who took the title of Wu-ti. To this succeeded a chaotic period under the Eastern Tsius, which family lost power in 419. This period is notable for the reception at the Chinese court of an embassy from the Roman empire, which was then sharing with the Chinese the menace of the Tartar hordes. For two hundred years after 419 almost all trace of ordered government was lost. No less than fifteen dynasties succeeded to the throne during this period. In 618 Li Yuen, taking the name of Kao-Tsu, made himself the first emperor of the great Tang dynasty. The three hundred years which followed, to its full in 907, were years of great expansion and progress. At first the power of the Turks on the W. was so great that they had to be propitiated, but it before aggressive was not long before aggressive measures could be taken, and the frontier was greatly extended in their direction as far as Eastern Persia and the Caspian Sea. From every part of Asia ambassadors were received at the Chinese court. Later the frontier was also extended on the N. to the borders of Korea by the defeats

inflicted on the Khitán. of the 8th century the T'ang dynasty began to decline, but that which succeeded it in 960, the Sung dynasty, was far greater. Between these two (907-960) come five minor dynasties. This is, above all, the period of C.'s literary activity. Book-making, printing. and the formation of printing, and the formation libraries were actively carried throughout the country. The on The chief adversaries of the empire during this period were the northern Khitan Tar-The first three kings, Tai-tsu, T'ai-tsung, and Chên-tsung, carried on a campaign against them with gradually declining success, and the Chinese were finally compelled to call in the aid of the Nüchih Tartars to expel the Khitan from Liao-tung. This the Nüchili did, but they then This the Nuchili did, but they then refused to leave the country they had thus occupied. They took the offensive against the Chinese and ultimately possessed themselves of the whole of Northern C., over which they established the Kin dynasty, leaving and the subtract had been described to the country the stablished the subtract had been described the subtract had been described to the country the stablished the subtract had been described to the country the stablished the subtract had been described to the subtract had been described t leaving only the southern half to the Sungs. Meanwhile, the power of the Mongols in Eastern Asia was in-creasing, and it was the northern kingdom that first felt the approach of the new danger. In alliance with the Khitán, Genghis Khan, the great Mongol leader invaded Liao-tung and captured the capital city, Liao-Yang, in 1212-13. The war continued with Mongol victories until the death of Genghis in 1227. He was succeeded by his son, Ogdai, who made an alli-ance with the Sungs of Southern C. against the Kins. This alliance was successful, and the Kin dynasty was entirely swept away. Quarrels, however, then arose between the allies, and the Mongols swept over most of Southern C. The whole of the country was in their hands when, in 1259, Kublai Khan ascended the imperial throne. At no period did China attain such greatness as now, under the Mongol dynasty. Its territories ex-tended from the Dnieper to the Pacific Ocean, and from the Arctic Ocean to the Straits of Malacca. Commerce flourished even with Europe, and it was during this period that Marco Polo, the first European to give the western races an accurate idea of C., was in the service of the Great Khan. In 1368 this great dynasty was succeeded by the native Ming dynasty, famous rather for the arts of peace than for their conquests. They, also, strove to encourage intercourse with foreign nations, and many Portuguese and Spanish traders is time non-to-call to the Europe, entered the country. Christianity was there does not considered to the Europe, also introduced more extensively by C. began in also introduced more extensively by the exertions of the Jesuit, Fr. Ricci. Canton became the chief port

At the end | for foreign intercourse. But a new foe, the Manchu Tartars, were now coming into prominence. In 1616 a force of these people, who had suffered much from Chinese oppression, entered the country and defeated the forces sent against them. In 1619 they took complete possession of they took complete possession of Liao-tung, and in the following year T'ien-ming, the Manchu king, de-clared himself independent. Mean-Tien-ming, the Manenu amg, uc-clared himself independent. Mean-while, C. itself was in a state of dis-union. There were various rebel forces, under different leaders, in arms against the emperor, who finally committed suicide. None knew where to turn for help, and the general on the Manchu frontier invited the on the Manchu frontier invited the Manchus to enter and subdue one of the rebel leaders. They willingly did so, but refused to retire when their work was done. They took possession of the capital without a struggle, and of the capital without a struggle, and in 1644, the last dynasty of C., the Ta-ts'ing, or 'Great Pure.' was established. It is interesting to note the pig-tail, the plaited queue of hair worn at the back, so often considered a special mark of the Chinese, dates its introduction from this time. It was imposed on them by the Manchu conquerors, whose fashion of headdress it was, and at first was received most unwillingly. However, the Manchus were in the minority, and most of their customs, etc., were replaced by those of the conquered race. Perhaps the greatest of the Manchu emperors was the second, K'ang-hi (1662-1722), who is famous both for learning and for general-ship. He devoted himself to study under the guidance of the Jesuits, and it is to him that the country owes the great dictionary of the Chinese language. His successor, Yung Cheng, language. His successor, Yung Cheng, was a monarch of a very different type, and it is from his reign that the policy of 'exclusion' elearly begins. He inaugurated a persecution of Christians, and did his best to undo the work which the Mongol emperors had started. The change was not, however, due to him alone. The conduct of Portuguese traders, and the quarrels of the religious orders had not impressed the Chinese favourably. Moreover, the ideas of civilizative. ably. Moreover, the ideas of civilisa-tion entertained by the castern and western races thus brought into contact were diametrically opposed on many points. Collision followed, as it was bound to do. From the 17th to the 19th century the attempt of C. to retire within herself and exclude the barbarians' marks her history. It many Portuguese and Spanish traders is time now to turn to England, for to

o centuries the ie hands of the East India Company. The Chinese objected especially to the importa-tion of opium, and the bringing in of this drug was made illegal in 1796. Mutual distrust between government and traders had long been growing, and in 1837 the Chinese government resolved on finally exterminating the opium trade. A governor, Lin, was sent to Canton, with orders to compel the merchants there to give up all the opium in their possession. The English werein a weak and precarious position. and the demand was complied with, but Elliott, the British governor, refused to take the further step of signing a bond authorising the confiscation of all ships afterwards engaged in the Negotiations continued for some time, which terminated with the British government's declaration of war in 1840. The British captured Chusan, stormed several cities, and finally threatened Nan-king. A treaty was then made at the latter place by which five ports, Canton, Amoy, Fuchou, Ning-po, and Shang-hai, were opened to British trade; Hong-Kong was ceded to Britain, and a large war indemnity was paid. Various other questions were also settled, but that of the opium trade was not discussed.

In 1856 fresh complications arose, over the 'Arrow' affair, and a fresh war arose. In this France joined, and after some victories by the allies the war closed in 1858 with the treaty of Tien-tsin. The British then aided the Chinese to put down the famous T'aip'ing rebellion. Till the end of the century the Chinese were engaged in resisting the encroachments of the Russians in Ili, of the Japanese in Formosa and the Liu-ki Is., and of the French in the S. Meanwhile Korea, nominally under the suzerainty of C., was threatening to prove the cause of a war with Japan, owing to the encroachments of the latter power, and in 1894 this actually came. After a year of conflict the Chinese were utterly defeated and compelled to sign a treaty at Chifu (1895), in which the independence of Korea was recognised by C., and Formosa and part of the Liu-Kiu archipelago ceded to the conquerors. At this period many new treaty ports were opened to the west-ern powers, who aided the Chinese in return to eject the Japanese from Liao-tung. C. then set to work Liao-tung. C. then set to vigorously to reorganise her military vigorously to reorganise her military vigorously to reorganise her military vigorously to reorganize the system. In 1897 Germany seized the port of Kiao-chou, and in the following year C. granted the Germans a lease of this district for ninety-nine years. In the same year (1898) Russia also received the lease of Port Arthur and its district, while Britain re-received Wei-hai-wei, and a ninetyyears' lease of part of Kwan-tung. burst on Oct. 10, 1911, on the banks

France received the lease for a similar time of the Bay of Kwang-chau-wan and of the islands near the bay. These predatory proceedings brought in their train a natural reaction against foreigners, a reaction which cul-minated in the Boxer rising (1900). (See Boxers, The.) In Feb. 1904 Russia and Japan came into collision over the question of Korea, and in a series of engagements, all of which occurred in Manchuria, Korea, or on the Chinese seas, Russia was severely beaten (for details Throughout this war C. Russia). The remained a passive spectator. terms of the treaty of Portsmouth, U.S.A., which was signed on Aug. 29, 1905, in so far as they affected C., included the conveyance of the lease of Port Arthur and Dalny to Japan and the recognition by Russia of Korea and Southern Manchuria as being within Japan's sphere of influence. Korea was finally annexed to Japan on Aug. 23, 1910, and the annexation was not questioned by the powers. In estimating the factors which led up to the revolution of 1911-12 (perhaps the greatest revolution the world has yet seen if the number of people it affected be taken into account), the weakness of the Manchu court must be borne in mind. The weak and youthful emperor, Kwang-su, made an abortive attempt in 1898 to introduce administrative reforms. This at once led to the reins of government being seized by his aunt, the reactionary and aged Dowager Empress, the emperor being made a prisoner in everything but name. There is little doubt as to the complicity of the Dowager Empress in the Boxer rising, but even she was forced to make some concession to the forces of progress within the empire. Edicts were issued in which constitutional reforms were promised, such reforms to be effected gradually, the whole to be completed by 1917. On Nov. 14, 1908, the Emperor Kwang-su died, and strangely enough on the follow-ing day the Dowager Empress also died. The emperor, who had died childless, was succeeded by his infant nephew, Pu-yi (born Feb. 11, 1906), who was not quite three years of age, Prince Chun, his father, being appointed regent. Prince Chun was a man of enlightened character, but even he was not able to withstand the court influences working against progress, so that before the new monarch had reigned two months Yuan Shihkai, the able and reforming viceroy of Chih-li, was dismissed. With Yuan's departure went possibly the only man who could have staved off the impending revolution. The storm

of Hu-peh was joined by the moderndrilled troops at Wu-chang, near Han-kau. The neighbouring arsenal of Han-yang was captured and with it funds to the extent of £400,000. The movement, which was more anti-dynastic (i.e. anti-Manchu) than republican, rapidly spread, and soon embraced most of the southern provinces of C. The leader of the revolt at Han-kau was the able general, Li Yuan-hung, but the inspirer of the revolution was Dr. Sun Yat-sen, at that moment in America. The distraught central government on Oct. 14 sent for Yuan Shih-kai, who at first refused to come to its aid, but eventually did so on the court conferring on him dictatorial powers. He despatched Admiral Sa Chen-ping up the Yang-tze with a squadron on gunboats, and proceeded to quell the rebellion at the head of the still re-(mostly northern) loyal On Oct. 13 the rebels promaining troops. claimed a republic in the province of Hu-peh, with Li Yuan-hung as president, and notified the foreign consuls that the property and persons of foreigners would be respected. After some indecisive fighting around Hankau, in which the advantage lay first with the rebels and then with the Imperialists (Han-kau being recaptured and burned on Oct. 29), a truce was arranged. In the meantime a rebel government was established at the old capital of C., Nan-king, and a convention representative of all the southern provinces was assembled first at Shanghai and later at Nan-Dr. Sun Yat-sen duly arrived and Yuan Shih-kai secured from the royal house in the closing days of 1911 an edict pledging itself to abide by the decision of a national convention as to whether it should abdicate or not. The revolutionaries now demanded that the Manchu dynasty should abdicate and a re-public be established, but Yuan strove hard to bring about a constitutional monarchy only. He sent Tang Shao yi to negotiate with Wu Ting-fang (formerly Chinese ambas-sador at Washington), and Tang was apparently won over to the Republican point of view. On the other hand, Dr. Sun Yat-sen, who had been elected President of the republic by Sun been the Nan-king Convention, by an act of patriotic self-effacement which saved much bloodshed, refused to accept the position, and urged that Yuan Shih-kai be appointed. Seeing that further resistance was useless. Yuan set himself to the task of making the serious serious

of the Yang-tze, a district in which to the new with as little friction as insurrections seem to be endemic. possible, and sought to procure the The rising in Han-kau in the province most 'face-saving' conditions for the retiring dynasty. On Feb. 12, 1912, the throne issued three edicts, in which it announced its will to abide by the decision of the National Convention and accept the republic, entrusting Yuan with the task of bringing about the new constitution in conjunction with the Nan-king government, and, after exhorting all to peaceably accept the new order, announced the abdication of the dynasty. A constitution of seventy clauses was promulgated; the emperor was to retain his title and receive a pension, and be accorded the civility due to a foreign sovereign. On Feb. 27 the Nan-king Assembly endorsed this de-cision by electing Yuan as President. and he was formally installed on March 10, but for a long while there March 10, but for a long wante there was a deadlock over the question as to whether Peking or Nan-king should be the capital of the republic, the question not being settled in favour of Peking until April. Tang Shao-yi, who subsequently resigned, was appointed Premier, Li Yuan-hung Vice-President, and a cabinet drawn from both governments was constructed. The Nan-king Assembly was dissolved. and C. seems on the whole to be going forward peaceably to her new destination. Yuan's administration has been hampered by the movements in Mongolia and Tibet towards autonomy, movements countenanced by Russia and Britain respectively. Difficulty las also been put in the way of C. by the Powers in the matter of a de-velopment loan, but President Yuan, supported by Dr. Sun Yat-sen, capably advised by his European adviser, Dr. Morrison (formerly Times correspondent at Peking), and with the country enjoying an exceptionally good harvest and expanding trade, seems likely to lay securely the foundations of the largest republic

the world has yet seen.

China Bark, one of the names applied to the bark which yields the

drug cinchona. China Clay, see KAOLIN.

China Grass, BŒHMERIA. 8€€ GRASS-CLOTH.

China Ink, see INK.
Chinandega, in Nicaragua, a tn.
consisting of two contiguous towns,
Old C. and New C.; important as
being the centre of a corn-producing
district owing to its situation on the
Corinto-Manague Railway. Trade in
leth patters cotton Indian feather cloth, pottery, cotton, Indian feather ornaments, sugar-cane, bananas. Pop. 12,000.

Chi-nan-fu, or Tsi-nan-fu, cap, city Yuan set himself to the task of mak- of Shan-tung prov., China, on Ta-tein ing the change from the old régime R., 175 m. S. of Tientsin. It is protected by a wall and three circuits of laniger is the true chinchilla, a little ramparts, and contains numerous temples, an examination hall, and a Roman Catholic cathedral. Has Has manufactures of silk and glass and a trade in precious stones. Pop. about 250,000.

China Root, the name given to the root of the tropical vine, Vitis sicyoides, and also to that of the liliaceous plant, Smilax China. The latter plant is used medicinally, and others of its genus riald constitution. of its genus yield sarsaparilla.

China Sea (Chinese Nan Hai, or Southern Sea), that portion of the Pacific Ocean lying to the E. of China and Siam, being bounded by China and Formosa on the N. and N.W., the Philippine Islands on the E., Borneo on the S., and the Malay Peninsula and French Indo-China on the S. and S.W. It torms the great guils of Siam. S.W. It forms the great gulfs of Siam and Tongking. Its chief affluents are the rivers Meinam, Cambodia, Canton, Mekong, Song-koi, and Si-kiang. The chief ports are Canton, Manilla, Bangkok, Singapore, Hong-Kong, and Saigon. Greatest depth, 14,250 ft.

China-ware, see PORCELAIN. Chincha Islands, three small rocky islands in the Pacific, off Peru, and about 14 m. from the coast. Total area 64 m. The islands rise to about area of m. The islands rise of account 200 ft., and were formerly noted for guano, but have now been worked out. Lat. 13° 38' S.; long. 76° 28' W. Chinchay-cocha, lake of Peru, lying

to the S. of Cerro de Pasco. Altitude, 13,800 ft.; length, 18 m.; breadth, 6 m. Discharges its surplus waters at the N.W. corner by the Mantaro R.

Chin-chiang-fu, or Ching-kiang, a tn. of Kiang-su prov., China, on r. b of Yang-tse-kiang at the junction of the Grand Canal, 45 m. N.E. of Nanking. It is connected by water with Shanghai, and is an open port under the Tientsin treaty of 1858. It is the second commercial city in the empire for imports, which include opium, cottons, sugar, and varied foreign produce, and it exports silk, rice, and dried lily-flowers. The most interesting building in the city is interesting building in the city is a cast-iron pagoda, 30 ft. high, which is supposed to be 1200 years old. The Is supposed to be 1200 years out. The fortifications have now been destroyed. The city was taken by the British in 1842, and destroyed by the Tai-pings in 1853. Pop. 140,000. Chinchilla, a tn. of Spain, in the prov. of Murcia, with industries of lead mining and cloth manufactures. Pan 850,

Pop. 6500.

Chinchillidæ, a family of rodent mamnals established by Bennett, consists of several genera of S. American animals allied to the agouti (q.v.). All the species have long limbs, bushy tails, very soft hair, and resemble squirrels to some degree. Chinchilla

creature with large eyes and ears, and its fur is so much sought after that it is diminishing in numbers. In habit it is gregarious and subterranean, and in disposition it is mild. Lagidium is another genus which has its habitat in the higher Andes, and the third genus consists of one species, Lagostomus trichodactylus, the Vizcacha. See E. T. Bennett's paper in Trans. Zool. Soc., vol. i., 1833.

Chinchon, a tn. of Spain, situated 25 m. to the S.E. of Madrid. Pop.

5000.

Chinde: 1. Riv. of Portuguese East Africa, in reality the chief of the estuarine branches of the Zambesi, which empties into the Indian Ocean about lat. 18° 30' S. The mouth is more or less blocked with sand. 2. Scaport of Portuguese East Africa, at the mouth of the Chinde R. It is the chief port for the Zambesi Valley and British Central Africa, though large steamers cannot cross the sandbar at the river mouth, over which there is only a depth of 10 to 18 ft. of water. The town has only come into being since 1889. In 1891 the British leased from the Portuguese five (later twenty-five) acres of land known as the British Concession, on which goods in transit to British possessions may be stored duty free. Pop. 2790 (about 300 Europeans).

Chindwara, see Chilindwara.

Chindwin, or Kyendwin: 1. Riv. of Upper Burma. Rises in the Patkoi Mts. near the Assam frontier, and flows in a southerly direction for about 500 m., joining the Irawadi on the r. b. between Mandalay and It is navigable by steamers up to Kendat, and by native boats for about 300 m. in the wet season and about 150 m. in the dry, but navigation is rendered difficult by the sandbanks and the switness of the current. 2. The name given to two districts in Sagaing, Upper Burma. The upper district is mountainous and covered with forest. Area 10 Aco and covered with forest. Area 19,062 sq. m. Capital, Kinday. Pop. 155,000. The lower district is partly wild and wooded and partly a fertile rice-producing plain. Area 3480 sq. m. Capital, Monywa. Pop. 276,000. Chinese Hemp, see Conchords. Chinese Labour Question, The. The

history of the C. L. Q. which so agitated the public mind in S. Africa and Great Britain during the first decade of the present century may be traced back to the pre-Boer War days. The gold mine owners of the Rand (Transvaal), in giving evidence before a commission appointed by the Boer govern-ment (1897), had demanded cheaper coloured labour to work their mines. They pointed out that certain lownative hut tax and consent to the establishment of locations in order to compel the kaffir to work at reduced They further argued that wages. with an increased supply of native labour more white labour would be employed. On the commission reporting adversely on these suggestions, the mine-owners talked of the im-portation of Asiatic labour and of closing down the mines if their demands were refused. President mands were rerused. President Kruger replied by passing a law which provided that if the mines were not worked by the mine-owners, the government would confiscate them and work them itself. Then came the

the hut-tax. At the close of the war the mine-owners reduced native wages from 47s. a month to 27s., with the result that at that time only 42,000 natives were working, as against 90,000 at the beginning of the war. On their raising wages next year to their former level, the natives flocked back until their numbers were the same as before the war. In July 1903 Lord Milner appointed a commission to inquire into the adequacy or otherwise of the sources of supply of labour for the mines. commission reported (two members dissenting) that an additional 129,000 ordinance, which received the royal consent on Mar. 11, was strenuously opposed by the Liberal party in Great Britain and by the Boers and white labourers in the Transvaal. On the other hand it was claimed that a petition in favour of Chinese labour was signed by a little over half of the white adult possible. white adult population. The opinion of Cape Colony may be gauged by the fact that in May 1904 a bill was ding

left Hong-Kong on May 25, and arrived at Durban on June 20, 1904, and ultimately as many as 60,000 coolies were employed on the Rand. The strong feeling raised in Great Britain strong feeling raised in Great Britain and The Reformers Rear-Book, 1905, against the employment of Chinese 1907.

labour, freely characterised by opponents as 'Chinese Slavery,' was, it is generally conceded, mainly responsible for the overwhelming defeat is manufactured by combining va-

grade ores could be profitably mined of the Conservative party at the if the government would increase the general election in January 1906. The new Liberal administration allowed existing contracts to be carried out, but refused to grant further licenses or extend old ones. On the granting of a constitution to the Transvaal the Het Volk (or Boer) party obtained a majority in the new chamber, and this party proceeded to redeem its pledge to repatriate the Chinese speedily. Thus 17,000 left in 1907, 28,000 in 1908, and the remainder in 1909.

The Chinese labour experiment was subjected to much criticism, both on its economic and moral side, and in the working, certain predictions and expectations were falsified. In war (1899-1902) in which the Kruger the first place, from the financial andpoint, it was found that the apployment of Chinese had not been

profitable as the promoters of the scheme had anticipated, as, the tastes of the Chinese being higher than those of the kaffir, the cost of feeding them was nearly double, and at the end of the contract was the expense of repatriation. On the other hand, the employment of Chinese considerably cheapened kaffir labour. It was also proved that the promise of an increase in employment of white labour due to the employment of yellow was not fulfilled, the proportion of white men to coloured of all races being 10 to 59 in May 1904, before the importation of coolies, whereas in November 06 it was 10 to 84. Of the moral dissenting) that an additional 129,000 labourers were necessary, and that central and S. Africa were unable to meet this demand. On Feb. 8 of the following year an ordinance was carried in the Transvall Legislative Council for the introduction of interest labour from outside Africa were labour from outside Africa was supposed by the government, but 1906 it was 10 to 84. Of the moral side of the question, apart from the pressed by the government, but enough is known to justify the statement that the very worst anticipa-tions of those acquainted with Oriental vice were fulfilled. The many parliamentary debates on the subject of Chinese labour gave rise to two or three phrases that will probably be remembered when the occurrence on which they were uttered has been forgotten. Thus we have the Archbishop of Canterbury's defence of the ordinance as a 'regrettable necessity,' and Mr. Winston Churchill's characterisation of the term Chinese The terisation of the term Chinese Slavery' as a 'terminological in-exactitude.' See F. H. P. Creswell, Chinese Labour Question, 1905; L. Phillips, Transvaal Problems, 1905, and The Reformers' Year-Book, 1906,

pourised metallic zinc with air, when the pigment is deposited as a white powder. C. W. is not liable to chemical or physical change, and is practically inert with regard to other Vienne, 25 m. S.W. of Tours. It is pigments. It forms an excellent situated amid most picturesque water-colour, but lacks toughness with oil.

Chingalpat, Chengalpat, or Chingleput, chief tn. and stronghold of the dist. of that name in the Madras Presidency, British India. Of historical importance since one of its forts was taken by Clive in 1752. The

district comprises 2842 sq. m. Ching-chu-fu, or Tsing-chou-fu: . Tn. of Shantung prov., China, 50 m. E. of Tsi-nan. The former cap, of the . prov. and a centre of the silk trade.

2. Tn. of Hupeh, China, near Sha-shih. Chingford, a par. and vil. of Es-ex. England, situated between the R. Lca and Epping Forest, 10 m. from London. Pop. 3000.

Chingleput, a tn. of Madras, British doned 16th century fort was taken snow to from the French by Clive in 1752. Rockies. Pop. 6200.

trade route.

Ching-wang-tao, or Chin-wang-tao. port of Chi-li prov., China, on Gulf of Liao-tung, 150 m. E. of Peking. One

of the treaty ports.

Ching-yang-fu, a tn. of Kansu, China, on Matien R. Lat. 36° 3′ N.; long. 107° 43′ E.

Chin-hai, or Ching-hai, a port of Che-kiang prov., China, at mouth of the Yungkiang, 10 m. from Ning-po.

Chin-hua-fu, or Kin-hwa-fu, a tn-and dist. of Che-kiang, China. Lat. 20° 11' N; long. 119° 51' E. Chini, a tn. of Bashahr, Punjab, British India, near river Sutlis, 69 m. N.E. of Simla. Vines are largely N.E. of Simla. Vines grown. Pop. about 5000.

Chiniot, in. of Jhang dist., Punjab, British India, near river Chenáb, 80 m. N.W. of Lahore. Noted for woodcarving and masonry. Pop. 13,500.

Chin-kiang-lu, see CHIN-CHIANG-FU. Chin-ling Mountains, a branch of the Kwen-lun Mts. in China, dividing the Wei and Han rivers in their upper courses. Its highest peaks are Ta-paishan and Kwang-tang-shan, both upwards of 12,000 ft. high. This range has several important passes, of which the chief are those connecting Si-an-fu and Shang-chou with Lungchii-chai and Feng-hsiang-fu and Feng Hsien with Knang-yuan Hsien.

Chinnampo (Chinampho), since 1897 a free port of Korea, on river Taidong, It has

Chinon, an anet. tn. of France, in the dept. of Indre-et-Loire, on the Vienne, 25 m. S.W. of Tours. It is situated amid most picturesque scenery; the massive castle was from the 12th century till the reign of Henry IV. the royal residence of Plantagenet kings. Rabelois was born here in 1883, and it was the meeting-place of Jeanne d'Arc and Charles VII. in 1429. It has manu-factures of serges and earthenware, and there is trade in agricultural products and in wine. Pop. (com.) 6500.

Chinook, a warm dry wind blowing over the slopes of the Rocky Mts. It is a local wind similar to the Föhn of the Alpine valleys, and is due to a cyclone passing northwards and lasting from a few hours to several days. The dynamic pressure to which the air is subjected in passing to a lower level is the cause of its dryness and India, capital of dist. of same name, warmth. It is felt as a cool wind in 34 m. S.W. of Madras. The aban-summer, and in winter it causes the to disappear from the

Chinoo'--Ching-tzu-kuan, a tn. of Ho-nan, Americar ex-China, on Tan R. Of considerable treme N. The commercial importance, being at the tribe is now nearly extinct, numbering head of winter navigation on the river and on the Hankow to Si-an-fu ing a small area on the Columbia R. in Washington. The C. were formerly great traders, bartering with the interior tribes the articles they obtained from the white skippers, useful 'Chinook jargon' came came into being as a means of communication rendered necessary by this commerce. See Shaw, The Chinook Jargon, 1909.

Chinquapin, or Castanea pumila, an American species of Fagaceæ closely allied to the chestnut. plant is smaller than the common chestnut, and the fruit is also edible.

Chin-sha, or Kinsha-kiang ('river of golden sand'), Chinese name for the upper course of the Yangtsekiang, rising in the mountains of the Kuen-lun system, dividing China and Tibet. It is separated by mountains from rivers Hoang-ho and Mekong.

Chinsura (Chinsurah), tn. of British India, Bengal Presidency, on river Hugli, now included in Hugli city, 24 m. from Calcutta. It is the seat of Hugli College. From 1656-1824 the chief Dutch settlement in Bengal, ceded to the English with other

places in exchange for possessions in Sumatra Island. Pop. about 5000. Chintz (Hindu cini, Beng. cil, from Sans. chitra, spotted, variegated), originally the name of pieces of printed calleo or cotton fabric from India. India, each piece being a 'chint. Later applied to a highly-glazed,

printed calico of home manufacture, with a many-coloured pattern of flowers or birds on a light back-ground. C. is used for curtains, furniture coverings, etc., and often draped round bassinets. Dust does not adhere to its calendered surface. See CRETONNE.

Chinu, a tn. of Colombia, dept. 95 m. from Cartagena. Bolivar, Valuable treasure was found here by Heredia in the tombs of the Indians.

Pop. (dist.) 10,000.

Pop. (dist.) 10,000. Chiococca, a genus of Rubiaceæ which consists of seven species, all occurring in tropical America. root of several of these plants is possessed of emetic properties, and C. anguifuga is used by the natives as a remedy for snake-bites.

as a remedy for snake-bites.
Chiogria (Chiozza), episcopal city and fortified port of Italy, 15 m. from Venice, 63 from Padua. It is built on piles on an island in the S. of the Venetian lagoon, surrounded by the Lombard Ship Canal, cut in two by the Vena Canal. A stone bridge of the Venetian Canal. A stone bridge of the Venetian Canal. A stone bridge of the Venetian Canal. A stone bridge of Chiozza-Money, L. G., see Money, C. G. Chiozza-Money, C. G. Chiozza-Money. nects it with the mainland, and a mole, built 1774-82, protects it from the Adriatic. Internal trade is carried on by means of the rivers Adige, Po, Brenta, and by canals. The Board of Trade building (mediæval corn-hall) dates from 1322, the cathedral from 1633. Fisheries are important, flax-spinning and shipbuilding are carried on, and sails, lace, candles, and bricks manufactured. The Latin name was Fossa Clodia, mediæval Clugia. In 1379 Venice conquered the Genoese fleet off C. Pop. (commune) about 30,500.

Chionea, a genus of Diptera in the family Tipulidæ, has several peculiar features, and the species are destitute C. araneoides has been of wings. found in the woods of Sweden and the mountains of Austria when both were covered with snow, the insect showing itself only in cold weather.

Chios, island and port in the Ægean Sea, belonging to Turkey, called Chios by the Greeks and Saki Adas by the Turks. It lies off the W. coast of Asia Minor, at the entrance to the Gulf of Smyrna. It has suffered terribly at the hands of the invaders and from earthquakes. It was at the height of its prosperity in 1822, when a wholesale massacre took place, owing to the revolt of some of the inhabitants. In 1881 the island was devastated by an carthquake in which over 56,000 people perished. In ancient times C. formed one of the traduction of the land was to the control of the traduction of the land was the control of the land was the control of the land was the control of the land was t twelve Ionian states, and was instrumental in helping the Greeks against the Persians, for it provided Greece with a fleet of 100 ships. The Persians

battle of Miletus. C. is the reported birthplace of Homer, and here the Homeride, or school of epic poets, flourished, whose task it was to hand down the Homeric text. The town in which the Homeridae lived is still extant, and is called Volisso (formerly Bolissus). C. is famed for its sculptors. As regards the features of interest in the island, situated on the hill stands an altar built to the goddess Cybele, and here is a statue of the goddess with her two lions, chiselled from out the rock. A monastery and church are situated on the W. coast, whilst Cape Phanae contains a harbour and a temple of Apollo. C. is about 30 m. long and varies in breadth from 8 to 15 m. Its capital is a thriving town, and manufactures silk and woollen goods. This island is one of the most

Viollet-le-Duc, and Danjoy. violet-18-Duc, and Danjoy. His architectural productions are comparatively few, but include one of the five monuments (1872) commemorating the siege of Paris (1871), and L'Ecole Nationale d'Armentières (Nord), 1885-8. He is chiefly noted for his writings on the history of art. Histoire Critique des Origines et de la Formation des Ordres Grecs appeared in 1876. Joint author with Perrot of L'Histoire de l'Art dans l'Antiquité (8 vols.), 1881-1904, a most valuable

work; and of Le Temple de Jérusalem et la Maison du Bois-Liban, 1889. Chiplun, a small tn. of India in the Bombay Presidency, situated about 20 m. inland, and 75 m. S. of

Bombay.

Chipmunk, or Tamias striatus, a species of ground squirrel common to N. America, and belongs to the family Sciuridæ. It is a pretty creature, differing from the common squirrel chiefly in having large check-pouches . and a shorter tail. Its diet is strictly vegetarian.

Chippendale (d. 1779), a famous cabinet-maker and upholsterer of the 18th century. He came to London from Worcestar with his father, a well-known cabinet-maker and woodcarrer, and ultimately established himself with his factors in St. Mertin's Lane. (Charter in St. Mertin's of all by relating up now he will be release; his ribbon-backed chairs are perhaps his most successful work, and next to these his settees of two or three were victorious, however, in the conjoined chairs. He published The

Gentleman Director, containing his own designs

and descriptions.

Chippenham, a tn. on the l. b. of the Avon in Wiltshire, 22 m. from Bristol. One of its bridges across the river has twenty-one arches. It is celebrated for its cheese market, and yields a good harvest of corn. This town is of historical interest, because it was occupied by the Saxon kings in Wessex, and King Alfred was forced to flag from the offer when supprised to fiee from the city when surprised by the Danes. Pop. (1911) 5332. Chippewa Falls, banking city of Wis-

consin, United States, cap. of Chip-pews co., on river Chippewa, 85 m. from St. Paul (Minn.), 12 m. from Eau Claire. It is on the Wisconsin Central and other railways. There are many foundries and mills (for flour, wool, lumber, etc.), worked by the waters of the river. Tone Rock battleground is near, and the city is noted for its pure spring waters. Chartered as a city 1870, it has its own mayor and town council. The State Home for the Feeble-minded and the County Insane Asylum are situated here. Pop. about 8890.

Chippewayans, a numerous tribe of American Indians of the great Algonquin stock, now settled in almost equal numbers in Minnesota and in Canada, but formerly inhabit-ing Wisconsin. Their name is written also Objibway, Otchipwe, and Ojib-beway, a term which may possibly refer to the 'puckered up' appear-ance of the front seam of the moccasins. They were the hereditary and inveterate foes of the Sioux and the Foxes whom, with the help of guns purchased from French traders. guns purchased from French characters, they drove out of their habitat, and themselves became masters of an extensive territory. They now number about 28,000, of whom about 12,000 are in Canada. In person they are tall, active, and well-formed. They fish, hunt, gather wild rice and cranberries, manufacture maple sugar, weave baskets and mats, and prepare birch bark for cances, etc. Chipping Norton, the ancient

Chepyngnorton, a municipal bor, and mrkt. tn., 25 m. by rail N.N.W. of Oxford. It consists of one large street with a fine Gothic church. Woollen and glove factories, brewing and agricultural trade. Pop. (1911)

3972.

Chipping Wycombe, see Wycombe. Chiquichiqui Palm, or Leopoldinia Piassaba, a Brazilian palm noted for the good fibre obtained from its bast. The piassaba fibre is used in brushmaking and the leaves in thatching.

of above, ancient city, 65 m. from Pop. about 40,000.

and Cabinet Makers' | Guatemala. The ruins of C. Antigua, destroyed by earthquake in 1773, are near. It has an active trade. Pop. about 4000. 3. Isthmus of Central America on Caribbean Sea, between mouth of the Motagua and the corner of Honduras Bay.

Chiquinquirá, city of S. America, in dept. of Boyacá, Colombia. 44 m. from Tunja, 80 m. from Bogotá. Noted for its chapel with a miraculous picture of the Virgin, annually visited by thousands of pilgrims. Every seventh year there is a special public celebration. Has cattle-grazing and trade. Pop. 18,000.

Chiquitos, a group of American Indian tribes dwelling in the province of Santa Cruz de la Sierra, Bolivia, and about the head-waters of the rivers Mamore and Itenez. They are well built, powerful, and of middle height, with bronze complexion, low foreheads, large round heads, and small bright eyes; they are hospitable, kindly, cheerful, and fond of music and dancing. They live in villages founded by Jesuit missionaries whom they willingly received in 1691, and who rapidly converted and civilised them. Since the expulsion of the Jesuits in 1767 they have degenerated considerably. They number about 20,000, and live in adobe houses that hed with grass; they are princi-

sugar making, and straw hats.

Chira, Cheera, or Tchira, a tn. of E. Turkestan, Central Asia, 50 m. from Khotan. Gobi Desert skirts it about 3 m. to the N. Pop. about 40,000.

Chirála, a tn. of Madras, British India, Kistna dist., 70 m. from Masulipatam. Pop. 10,500 (chiefly Hindus).

Chiretta, or Swertia Chirata, an Indian species of Gentianaceæ. The plant is extremely bitter, and when at its best it is gathered, dried, and the drug C, is extracted from it. It acts as a stimulant and tonic, and in India it serves as a febrifuge.

Chiriqui, a prov., riv., lagoon, and archipelago of Central America, in archinetago V. Panama, Colombia. The river Ch is situated

nd separated by Chiriqui on has three

entrances, Boca del Drago, del Toro (on each side of Isla del Drago) in N.W., Boca del Tigre on E.. and is navigable for the largest ships. It extends 90 m. along the coast, and 40 to 50 m. inland. The province has lofty volcanic peaks (Chiriqui, about Chiquimula: 1. Eastern dept. of 12,000 ft.) and a fertile soil. Tobacco. Guatemala. Pop. 65,000. 2. Capital sugar-cane, and bananas are grown.

Chiromancy, see PALMISTRY. Chiromo, or Chilomo, vil. and trading-port of British Central African Protectorate, Nyassaland, at confluence of Rs. Shire and Ruo, 55 m. from Blantyre. A road is to be made from C. to Zomba.

Chiromys Madagascariensis, the single species and genus of the mammalian family Chiromyide, is a singular animal allied to the lemur, termed, from its plaintive voice, the Aye-Aye. In appearance it is squirrel-like with a bushy tail, large ears, and long incisor teeth; the manus has a long, thin third digit, and all the digits are clawed, the thumb is opposable and has a flat nail, so also has the big toe. The use of the third digit is not definitely known, it has been seen to use it in combing out its hair, but it is believed to serve chiefly for picking caterpillars out of the bark of trees. The diet of the aye-aye consists of buds, fruits, insects and their larve; in habit it is nocturnal, and during the day it conceals itself in a secluded retreat. In captivity it has shown itself timid, inoffensive, and very slow of movement.

Chiron, or Cheiron, one of the Centaurs, son of Cronos and Philyra, a sea nymph. C. was wise and just, while the other centaurs were uncivilised and fierce. He was the in-structor of Action, Jason, Castor, Achilles, and other celebrated Greek heroes; he taught Asclepios the art of healing. He was accidentally wounded by a poisoned arrow shot by his friend Heracles. To free himself from the pain caused by the wound he renounced his immortality in favour of Prometheus, and was set among the stars as the constellation Sagit-

tarius.

Chironectes, the water opossum, a genus of marsupials, is represented by one species which inhabits S. and Central America. It is about the size of a rat, has webbed hind feet, and

feeds upon fish.

Chironomus, the chief genus of the midge and gnat family or Chirono-mide, contains over two hundred. British species. The perfect fy is two-winged, and the blood-red larva is often called a blood-worm by anglers, who use it when fishing. dwells in mud and forms food for birds and fishes. The swarms of little grey flies which dance actively above water on summer evenings belong to this genus.

Chiropodist (Gk. xeip, the hand, and (genitive) movs, modos, the foot), one who is consulted about or who treats ailments of the hands and feet. The term manicurist is now used for those

who treat the hands.

Chiroptera, see BAT.

Chirotes canaliculatus, a worm-like lizard of the family Amphisbenide, forms in itself a genus, and bears the proud distinction, wanting in all its relations, of possessing two small anterior limbs each with two toes. The C. is to be found in Mexico, and in length it varies from about 8 in. to 1 ft.

Chiru, or Pantholops, a Tibetan genus of antelope comprising two specie. The animal is pale fawn in colour with woolly hair; the male alone has horns, and these are long. straight, ringed, and gazelle-like. It is nearly three feet in height, and is so swift and alert that great difficulty is experienced in its capture.

Chirus, a genus of acanthoptery-gious fishes, is common to the seas of Kamtchatka. They are shore fishes with several lateral lines, and belong to the family Heterolepidotide or

Hexagrammidæ.

Chisel (M. Eng. chisel or chesil, from O. Fr. cisel), a tool used in carpentry and metal work, consisting of a blade with a bevelled or sloped cutting edge at one end and a handle at the other, which is prepared either for the grip of the craftsman's hands or to receive the blows of a hammer. Cs. differ widely in shape and purpose, and receive their name according to their use or shape. Thus, there is the cold chisel, which is used for cutting unheated metal and stone. It has its cutting edge sharpened on both sides, and is formed of highly tempered steel. It is driven by a hammer. Car-penters' Cs. are driven by hand or by blows from a mallet. The ordinary implement is wooden-handled, and the blade is bevelled on one side only, the bevelled face meeting the flat side at an angle of about 20°. Stonemasons' Cs. are bevelled on both sides and vary considerably in shape; the boasting chisel is used for roughly dressing the surfaces of stones. carving chisel is one of the most deli-cate of these instruments. It is bevelled on both sides, and the two faces meet at an extremely acute angle, that it may lightly cut the wood without crushing it out of shape. The spoon-chisel is a bent instrument, bevelled on both sides, used by sculptors. Among other varieties may be named the dental C., the turning C., the mortise C., and the ripping C. Certain Cs., with semi-circular blades used for gouging, are generally known gouges

Chishima ('Thousand Isles'), the Japanese name of the Kurile Is., extending from Kamtchatka to Yezo.

Chisholm, Alexander (c. 1792-1847), Scottish painter, early apprenticed to

a weaver, went to Edinburgh about | guzin 1812, becoming teacher at the Royal Scottish Academy, under the patronage of the Earls of Elgin and Buchan. He moved to London, 1818, exhibiting at Royal Academy, 1822; associate exhibitor of Water-Colour Society, 1829. His chief works were historical groups and portraits. He also did illustrations for the Waverley novels. Among his works are: 'Boys with a Burning Glass,' 1822; 'Shakespeare before Sir Thomas Lucy, '1834; 'The Cotter's Saturday Night,' and 'Bap-tism of Ben Jonson's Daughter,' 1837; 'The Pedlar' (South Kensington Museum); 'Signing of the Covenant Juseum); 'Signing of the Concealing Minister and his Wife Concealing of the Church,' the Scottish Regalia in the Church, 1846.

Chislehurst, an urban dist. of Kent. England, 111 m. S.E. of London on the S.E. and Chatham Railway. It is delightfully situated on a common, where grow furze, heather, the blackberry, and wild rose. At Camden Place, in the vicinity, Napoleon III. died in 1873, and the Empress Eugénie lived here for some years with the Prince Imperial, to whose memory a cross has been erected on the common. There is a chain of inthe common. There is a chain of interesting subterranean caves whose origin and use has not been fixed with certainty, but they are believed to be ancient storehouses and hiding-

is here; also gardens of the Horticultural Society, and many large market gardens. It contains Hogarth's house, and his grave in the church-yard. Pop. (1911) 38,697. Ecclesias-tical parish (with Turnham Green) about 5000.

Chita: 1. Tn. of Boyacá, Colombia, 74 m. from Tunja, 150 from Bogotá. On W. of snow-covered sierras, with important mine of rock-salt, 'salina, on the other side. The saline springs are also noted. Pop. about 10,000. 2. Tn. of E. Siberia, Russia, cap. of

and the Chinese (Klakhta); it has schools, newspapers, and much trade, supplies being shipped annually for the military forces on the Amur when R. Ingoda is navigable in spring. Pop. about 17,000.

Chitaldrug, or Chitaldroog: 1. Dist. of Mysore, British India, very unhealthy, hence the least populous in Mysore. Area 4,470 sq. m. In 1876-78 it suffered greatly from famine. Present pop. about 500,000. 2. Cap. of above, town and fortress of Nagar, 73 m. from Bellary, 128 m. from Seringapatam, at the base of a cluster of hills. Noted for a wonderful rock-Cantonments are abanfortress. doned because unhealthy. Manufactures cotton cloth and coarse blankets. Ancient name Sitala Durga ('Spotted Castle'). Pop. about 4500.

Chitambo, a vil. of British Central Africa, situated about 10 m. to the S.E. of the southern shore of Lake Bangweolo. It is noted as the place where Livingstone died in May

1873.

Chitin, a skeletal substance found in all arthropods, forming most of their hard parts, and also in some other animals, e.g. the brachiopod, Lingula anutina. It is a white, amorting the control of the phous substance containing nitrogen, yields glucosamide in acids, and is

insoluble in alkalies.

Chitonidæ, a family of molluscs usually classed among the Gastroplaces. Pop. (1911) 8666.
Chistopol, or Tchistopol, a dist, and poda, consists of marine animals Chistopo, or Tensopos, 2 and the constant of Government of Kazan, Russia. ranging in size from half an lines we Port on R. Kama, 70 m. from Kazan. half a foot; some are littoral and Has considerable corn-trade. Pop. others have been dredged from a denth of 2300 fathoms. All the depth of 2300 fathoms. All the species are bilaterally symmetrical, Chiswick ('Sandy Bay'), par. and the Chiswick ('Sandy Bay'), par. and the Species are bilaterally symmetrical, the of Middlesex, England (London bave eight shell-plates embedded suburb), Ealing division, 7 m. from the partially or entirely in the mantle, St. Paul's, on 1. b. of R. Thames, 'Chiswick and Grove Park' is on the London and South-Western Railway; 'Chiswick Park and Acton Green' to District Railway. The Duke of Chiswick House, selves to rocks, but can crawl by shore, also gradenes of the Morticul, means of their long foot, and are anterior mouth and a median posterior anus. They live on vegetable matter, and in habit are like limpets; they usually attach themselves to rocks, but can crawl by means of their long foot, and are capable of rolling themselves un capable of rolling themselves up.

Chitral, the name of a native state in the North-West Frontier Province, India, and of its capital. The state has an area of about 4500 sq. m. In 1885 the Lockhart mission visited C., and in 1889 and again in 1891 the B-fift row and again in 1891 the row of the fifth of the first state of th to the foreign policy and defence. Since 1895 Great Britain has exer-cised a protectorship over the state, 2. Th. of E. Sheria, Aussia, ear, it ransbalkalia prov. on R. Chita, near its junction with R. Ingoda. It was there, as it is an important British founded in 1851, and is on the Transsiberian Railway, 370 m. from Irkutsk. C. is on the routes from Barwheat, barley, maize, and rice. C.

with a pop. of about 2500. Lower Bengal, India, bounded on the in the middle ages, but draining in E. by Tipperah, on the S. by Arakan, the 18th century has restored it to and on the W. by the Bay of Bengal. wholesomeness. The country is very hilly, with many cheep ravines. The hills are densely hood, is closely bound up with the covered with creeper jungles and feudal system of Norman times. It with thick forests of trees. There is has its roots, however, right back in elephant hunting in the forests. C. Germanic times, as Tacitus shows is divided into four valleys by the is divided into four valleys by the rivers Pheni, Karnaphuli, Sanger, and Matamuri. Many different kinds of tribes inhabit the hills, but the religion observed is chiefly Buddhism. C. was ceded to the East India Company in 1760. The port of C. is situated some miles distant from the mouth of the Karnaphuli, and ex-

ports rice, tea, and jute.
Chittagong Wood, the product of
Chickrassia tabularis, an Indian species of Meliaceæ, also known as red wood, bastard cedar, and white cedar. It is largely used in cabinet-

making.

Chittore, a tn. of Rajputana, India, situated in the native state of Udaipur: Chitorgarh is the fort. Ruined palaces and temples are in the neigh-

bourhood. Pop. 7000.
Chitty, Edward (1804-63), became a member of Lincoln's Inn in 1829. and wrote, with Deacon, reports of the judicial decisions in cases of bankruptcy, Commercial and General

ruptey, Commercial and General Lawyer, an Equity Index, etc. Chitty, Joseph (1776-1841), an eminent special pleader and writer of the following and other books on law: Treatise on the Law of Nations, Practice in the Courts of King's Bench. His three brothers, Thomas, Joseph, and Thompson, were also well-known lawyers and writers.

Chitty, Sir Joseph William (1829-

99), son of Thomas C., was for sixteen years a very popular judge. He be-came master of the rolls in 1881, and was promoted to the Court of Appeal in 1897; he wrote legal text-books.

Chiusa, or La Chiusa (Lat. clausa, shut in): 1. Com. and tn. of Piedmont, Italy, 8 m. from Cuneo, on the Ellero. Also a defile of N. Italy. Pop. about 6000. 2. Com. of Sicily (Chiusa Sclafani), 30 m. from Palermo. 7000.

Chiusi, in Italy, an important tn. in the prov. of Siena, Tuscany. It is the ancient Clusium, one of the twelve cities of the Etruscan Confederation. C. is celebrated chiefly in connection with the discovery of Etruscan antiquities; vestiges of forsun-dried black earthenware vases, questions relating to armorial bear-

town is actually a group of villages ornaments, etc., now in the museums with a non, of about 2500. Of Florence and C. Dante describes Chittagong, a maritime dist. in the 'pestilential pool' the town was Lower Bengal, India, bounded on the in the middle ages, but draining in

comprises an area of 6812 sq. m., and in his account of the manners and customs of this race. But C. became further developed in the 11th century. and the order of knighthood involved many duties and responsibilities. The king himself had to train for knighthood when he had to serve first as page, then as esquire before being presented with the golden spurs which was one of the symbols of knighthood. Before a knight was admitted into his order, a vigil or night-watch was held by him in some gloomy chapel aisle where he gave himself up to solemn meditation before assuming his new duties and privileges. C. was eminently social in its relations to feudalism, and assumed a deep spiritual significance in its relations to the Crusade movement where the knight had to perform military service for the cause of Christianity against the infidel in Palestine. The favourite sport of C. was the tournament or joust in which the knight sought to win his lady's favour. This tournament would occupy some two or three days. There would be a trial of combat between two knights, often with lances, and the victor besides winning the armour and horses of the vanquished, would be permitted to name some lady who should preside over the remaining sports, and who was called the Queen of Love and Beauty. The idea of a love both spiritual and chivalrous became associated with the word C. in the Middle Ages. Here the love of a lady implied a deep and reverent attachment to the whole of womanhood; at the same time one woman could be the particular object of the knight's thoughts, when the relationship was purely platonic. C. under these conditions gave rise to a vast library of literature, in which all kinds of romances, adventures, and poems (chiefly sonnets) were written.

Chivalry, Court of, a military court established under Edward III., regulated by Richard II., 1390, of which the Earl Marshal and Lord High Constable were joint judges. Replaced now by the common law courts and courts-martial, it sat for resses are to be seen, as well as the last time about 1737. Now regrottos or catacombs, which served presented only by the Earl Marshal as tombs and where were found the of the Heralds' College to decide

ings. See Blackstone's Commentaries, grow wild in Madagascar, and the 1765-69; Stephen's Commentaries, order is closely allied to Theacem.

about 1883.

Chivasso, a com., tn., and episcopal see of Piedmont, Italy, on river Po, 15 m. from Turin. Fortress of the counts of Montferrat till destroyed by the French, 1804. Remains of their palace are left. There is a fine cathedral, and the sulphur baths of Noted for ustries: has San Genesio are near. San Genesio are near. lampreys and silk industries; has 9900.

Chive, Cive, or Allium Scheenoprasum, a liliaceous plant related to such well-known plants in culinary use as the leek, onion, and garlic. Like them, it grows in Britain, and the leaves are considered to be edible, their chief use being to flavour soups and stews. The Cs. grow from bulbs, the leaves are long and narrow, and the flowers are bright purple or pinky

in colour.

Chivicoy, a tn. of the Republic, situated 110 n Buenos Ayres, with whic railway communication. Th manufactures of brandy and i goods. Pop. 16,500.

Chizerots, or Burins, the ni given in France to the debris of one of two large discs, which forms an of those despised races known under the general name of Cagots. The C. and throat and can be unfolded when the lizard is angry and folded again the lizard is angreed to the complex the lizard is an again the lizard is again the lizard Ain. They

butchers, butchers, a laborious lives apart from the rest of the community. Opinion is divided as to their origin, but they are supposed to be of mixed Goth and Saracen blood. In the middle ages they were the object of all kinds of persecution and restrictions. During the 18th century several attempts patches, due to irritation, the use of vere made to rehabilitate the control with the Morentitor.

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Melde, 1866.

Chlenius, a genus of Carabide, belongs to the Colcoptera. There are many species dwelling in Europe, Africa, Asia, and N. America; C. sericcus and C. tomentosus, two medium - sized, purple or greeny-bronze beetles, are found in the United States.

Chlamydophorus, or pichyciego, an edentate quadruped of the armadillo family, or Dasypodide. The species, of which only two are in existence, are small animals covered over with four-sided, horny plates which are thin in the front and strong in the hinder region. The external cars are very small, and the small eyes are buried in long silky hair; under the bony plates and over the whole body the straw-coloured hair also prevails. The limbs are short and there are five digits on the fore-limbs. C. truncatus, a native of Mendoza, is the more

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curious the feat

only with the Revolution 1 allowed ordinary civil rig. Michel, Histoire des Races Chiadni, Ernest Florens Friedrich (1756-1827), a German philosopher, founder of the science of acoustics. Abdomen in connection with certain the was born at Wittenberg, became doctor of laws and professor of jurismore marked during menstruation. prudence at Leipzig, but after some sometimes during preguancy and processor of Jurisprudence at Leipzig, but after some sometimes during menstruation.

Tuberculous patients sometimes exhibit brown patches on the forehead and cheeks.

The causal connections in most

mitigate nt of the

Joseph, patriot.

He took part in the first Polish Chienaceee, a small natural order of dicotyledonous plants, consists of Napoleon in the Grande Armée. about two dozen handsome trees or After the taking of Paris in 1814 he shrubs of no known use. They all led back to Poland the remnant of most unwillingly, dictator. He soon resigned in order to re-enter the army and fight as a simple soldier. He was wounded at Grochow.

Chlora, a genus of Gentianaceæ, contains only three species, and of these C. perfoliata, the yellow-wort, is a native of Britain. It grows wild on chalky hills and banks of England and Ireland, but does not occur in Scotland. It possesses a bitter principle which renders its action on the system tonic. The other two species are to be found in various parts of Europe and in N. Africa.

odour. It is closely

Combined with

hydrate (g.r.), whi is used as a drug to produce sleep, is used as a drug to produce sleep, when from 15 to 30 grains is sufficient. It is also used to alleviate pain, to check excitement and convulsions, etc. Since it tends to reduce the heart's action and lower the tempera when from 15 to 30 grains is sufficient. In the same of the body its use is fraught the formula: H.AsO. + CaOCI. =

with danger.

Chloral Hydrate, commonly but H,450, + CaOL; =

Chloral Hydrate, commonly but H,450, + CaOL; =

erroneously called chloral, is chloral

combined with water, and is a white; weight 35-4) was discovered by Scheele

crystalline substance, with a pungent in 1773. He called it dephlogisticated

smell and a bitter taste. C. H. treated

morine acid air, and regarded it as a

commonly to the control of with caustic potash gives pure chloroform. It has anæsthetic properties.

and is a drug.

herbs, shrubs, and trees allied to the peppers, and having an aromatic fragrant odour. The hermaphrodite to three united stamens, an inferior ovary consisting of a single carpel, and a few seeds with oily endosperm and no perisperm.

the Polish troops and was made (KClO₂). The chlorates are usually general of division by the Emperor formed indirectly by passing chlorine Alexander. After the second Polish into a hot solution of the hydroxide insurrection (1830) C. became, though of the metal, and then crystallising out the chlorate. Chlorides are formed at the same time, but they are much more soluble and remain in solution. Since chlorates contain a large amount of oxygen, they are used as oxidising agents, potassium chlorate being used in the manufacture of matches, and in pyrotechny, especially where coloured effects are required; it is also used in tabloid form for the alleviation and cure of sore throat. Chloride of Lime, see BLEACHING

POWDER, BLEACHING.

Chlorimetry, the term applied to the estimation of the proportion of available chlorine in bleaching powder Chloral (trichloraldehyde, CCl. CHO), available chlorine in bleaching powder formed by the action of chlorine gas (q.t.). It varies from 20 to 43 per cent. The processis one of volumetric colourless liquid with a penetrating analysis. It is usual to make a definite of arsenious acid or some

ubstance which The solution of bleaching forms chloroform and a formate. It powder is then carefully run into a was discovered in 1831 by Liebig. It measured quantity of the arsenious is used as a drug to produce sleep, acid, and by the aid of an indicator a paper moistened with potassium

marine acid air, and regarded it as a compound. In 1810 Davy proved it to be an element, and gave it its present name, because of its greenishand is a drug.

Chloranthaceæ, a small natural yellow colour. It does not occur free order of tropical or sub-tropical in nature, but it is very common in dicotyledonous plants, consists of combination with metals, the comherbs, shrubs, and trees allied to the monest chloride being sodium chloride (common salt). As such it occurs in all natural waters; in beds as rock or unisexual flowers are small, with a salt, in animal secretions, and in rudimentary or sepaloid perianth, one plants. In combination with hydrogen, as hydrochloric acid, it is found in volcanic gases and in the gastric juice. C. can be obtained in various ways: (1) by heating gently manganese dioxide and hydrochloric acid. and no perisperm.

Chlorate, see CHIORIC ACID.
Chlorate of Chioride, and the mixture of the substances from which hydrochloric substances from which hydroch highly oxidised compounds, together be separated from the insoluble rewith hydrochloric acid, give C., and among these substances may be named potassium bichromate

and potassium chlorate.

Manufacturing processes.-1. Weldon's process is really a process by which the manganous chloride mentioned above can be turned again into manganese dioxide, and re-used to act upon further supplies of hydrochloric acid, giving further quantities of C. 2. Deacon's process depends upon catalysis (q.v.); air, or oxygen and hydrochloric acid, are passed over pumice impregnated with cuprous chloride (a salt of copper), which has been heated to a dull-red heat. Then water is formed and C, evolved.

Properties.—It is a greenish-yellow gas, which has a suffocating smell. If inhaled in the pure state it would cause death. It acts very rapidly on the mucous membranes even when largely diluted in the air. Very dilute in the air, however, it imparts a pleasant odour to a room. It is 2.4 times as heavy as air, but when heated its density is considerably less than it should be. So while at lower temperatures its molecular formula is Cl2, i.e. has two atoms in the molecule, at higher temperatures it must dissociate into single atoms. It is fairly soluble in water, although it may be collected over warm water, or over brine. It has such powerful chemical affinities that it will enter into combination with a large number of elements at the ordinary temperature: in many cases so violent is the combination that the other body takes fire, e.g. phosphorus, arsenic, antimony. It is remarkable to notice that if the C. be dry it will not unite with these substances. has a strong affinity for hydrogen. If the two gases be mixed and heated, or even exposed to sunlight, they will unite with an explosion to form hydrochloric acid gas. C. possesses by virtue of

ydrogen, for hydrogen in oxygen, and on colouring

matter, preaching it. It is this bleaching power which makes it valuable commercially, and for this purpose it is combined with lime to form bleaching powder (q.v.). C. gas can be liquefied by lowering its tempera-ture to -34° C., when it has a golden colour. At -102° it freezes into a yellow crystalline mass. As a liquid it is packed in lead-lined from bottles and exported to be used in the extraction of gold by the chlorination process. Liquid C. enters into combination with the gold in the ore and forms a soluble chloride which can fully.

sidues. Then by suitable means the gold can be obtained. C. is one of the halogen group of elements, which are fluorine, chlorine, bromine, and iodine, all of which possess similar properties. See Hyprochloric ACID, FLUORINE, BROMINE, IODINE.
Chlorite, a mineral of a green colour and composed of silicate of

alumina, iron, magnesia, and a certain amount of water. It is soft, and when crystallised in small green hexagonal crystals is scaly in texture. It forms the principal part of chlorite schist in the region of the metamorphic rocks, and is also an alteration product of hornblende and other minerals in many crystalline rocks. There are many varieties, and for convenience these may be divided into orthochlorites, which are crystalline, and leptochlorites, which are not.

Chlorite Schist, a variety of schist chloritic material such as clinochlore, together with quartz, mica, tale,

felspar, and other bodies. Chloritic Marl, the name given to what is really glauconite marl. It is a chalky marl of a white or yellow colour and situated at the base of the chalk. The name 'chloritic' was given owing to the presence of grains of glauconite scattered through it which was wrongly supposed to be chlorite. It also contains phosphatic nodules. The C. M., together with the two beds above it, namely, the chalk marl and the grey chalk, form the division called the Lower Chalk of the Upper Cretaceous Period. The principal fossils are varieties of Ammonites or Schlænbachia. Beds vary in depth up to 15 ft.

Chlorocinnose (C,H,Cl,O,), a compound produced by the action of chlorine upon oil of cinnamon. When pure it exists as brilliant crystals, which are colourless. It volatilises

or Cyanuric stained when anhydrous hydrocyanic acid chlorine are together exposed to the action of sunlight. It is crystalline, forming needles, and has a disagreeable smell. Heated with water it is decomposed, and gives cyanuric and hydrochloric acids.

Chlorodyne, a popular patent medicine, first compounded by Dr. Collis Browne. Owing to its dangerous nature and variability of composition, the latter was fixed by the British pharmacopæia of 1885 as chloroform, morphine, hydrochloride, prussic acid, ether, and, in addition, peppermint and a syrup. It is useful for diarrhœa and coughs, but must be used care-

(CHCL), a volatile liquid widely used as an anæsthetic. It has a pleasant odour, boils at 61°, has a melting point of 62°, and a specific gravity of 1.5 at 15°. It is not inflammable at ordinary temperatures, but burns with a green-edged flame when heated. It is formed when methane, methyl chloride, or methylene dichloride is chloride, or methylene dichloride is treated with chlorine in sunlight, but is commonly prepared by distilling alcohol or acetone with bleaching-powder, or by warming chloral or chloral hydrate with a solution of sodium hydroxide. C. quickly decomposes in air, especially in the presence of sunlight, carbonyl chloride, and hydrochloric acid heine proand hydrochloric acid being pro-As carbonyl chloride is a duced. dangerous impurity when the C. is used for anæsthetic purposes, it is customary to keep the liquid in the dark, and the addition of a small percentage of alcohol serves to effect the decomposition of any carbonyl chloride which may be formed. A good test of the purity of C. is provided by the addition of silver nitrate, when no precipitate should form; it also should not darken when agitated with strong sulphuric acid. C. was introduced as an ansesthetic by Sir James Simpson in 1847, and it quickly superseded ether for long operations. It is administered by means of a loose-fitting mask which allows admixture of air, and the strength of the vapour is gradually increased. The effect of the inhalation is to produce first a state of disordered consciousness, which leads to complete unconsciousness. The reflexes persist for some time, and there energetic movements of the are In the next stage muscles. relax, and many of the muscles reflexes disappear, though the vital centres in the medulla are still sensitive, and the heart muscle active: this is the stage suitable for surgical operation. Later, the vital centres in the medulla may become paralysed, in which case respiration stops and life is endangered. C. under skilled management is a safe anæsthetic, the mortality being about 1 in 2500, and the after-effects in favourable cases rarely include painful vomiting. C. is also administered internally as a stimulant, anodyne, and as an antidote to strychnine poisoning. Externally, it is used to dilate the superficial blood-vessels, and as a local anæsthetic in cases of toothache.

Chloro-nitrous Gas, or Nitrosvl Chloride (NOCl), an orange-coloured gas obtained by the direct union of chlorine and nitric oxide. It is easily the phyllites, minera liquefied at about 5° C. and atmo- in character between spheric pressure, and is readily de- and the mica-schists.

Chloroform, or Trichloromethane; composed in the presence of water and hydrates of sodium, potassium, or ammonium.

Chloropal, a massive mineral resembling opal. It is green in colour, and consists of a hydrous silicate of iron.

Chlorophyll, the green colouring matter of plants. Its composition is unknown, but magnesium appears to be an essential constituent. It is insoluble in water, but dissolves in alcohol, benzene, and chloroform, and when extracted by the aid of one of these solvents, appears as a green amorphous mass. It is dichromatic, that is to say, when a thin layer is viewed by transmitted light, it appears green; but when the layer is of considerable thickness, it is dark red in colour. This is explained by the fact that whereas both red and green rays are transmitted, the green rays predominate in a thin layer, but rays predominate in a thin layer, but are absorbed with greater facility than the red if the layer be thick. The development of C. in plants appears to depend on certain conditions of temperature and light, for if parts of a plant are hidden from sunlight, they quickly become blanched. The function of C. is to aid in the nourishment of the plant by absorbing carbon dioxide from the atmosphere and producing carbohydrates. phere and producing carbohydrates. The nature of the process is obscure, but sunlight is an important factor. and the C. cells appear to possess the power of absorbing radiant energy from the sun's rays, by means of which the necessary chemical changes are brought about. Viewed micro-scopically, the C. of plants is seen to consist of granules or corpuscles called chloroplasts, which are embedded in the protoplasmic substance of certain cells. It is associated with other pigments in the plant economy, and the colours changing of spring autumn are probably due to changes in the relative amounts of C. and other pigments. The existence of C. is sometimes taken as the distinguish-ing characteristic of the plant as compared with the animal, but some plants seem to build up their tissues without the aid of C., and some animals, such as certain infusoria, animals, such as certain infusoria, hydra, etc., possess C. In some cases this is due to symbiotic algæ, but other animals develop it apparently for some functional value. Molluscs and cretacea frequently exhibit C. as the result of absorption from food. Chlorophyllite, a mineral consisting quartz, chlorite, and muscovite, occurring usually in scales or lamine. It is a variety of the larger group of the phyllites, minerals intermediate in character between the clay-slates and the mica-schists.

Chlorosis, or Green Sickness, a form factures, dye-works. Battle against anemia peculiar to the female sex, d Tartars, 1241. Pop. about 8000. Choanites, or Petrified Anemone, riod of the attainment of puberty. of anæmia peculiar to the female sex, and particularly associated with the period of the attainment of puberty. The patient has a peculiar greenish pallor, is afflicted with palpitations, faintness, and gastric disturbances, and suffers from general languor and debility. The cause is a diminution of the proportion of hamoglobin, or red colouring matter of the blood, due to the system badly accommodating itself to the new activities of the genital organs. It is therefore found chiefly amongst girls of sedentary occupation, pursuing exhausting work under bad hygienic conditions in illventilated offices and factories, without a due proportion of leisure and healthy exercise, and often without suitable nourishment in the way of wholesome food regularly taken. The supply of hæmoglobin is furnished by the bone-marrow, and under normal healthy conditions the red corpuscles increase in number to replenish waste caused by any undue strain upon the system. The frequency of amenorrhœa in cases of chlorosis indicates that the organism resists any further drain of red corpuscles, and the other painful symptoms, such as faintness and dizziness, indicate that the blood is too poor in hemoglobin to carry out its nutritive functions in an efficient manner. The treatment should include rest, abundance of suitable food, and general observance of hygienic principles. If possible, a complete change of surroundings and occupations should be effected. Iron preparations should be assiduously administered and continued for a long period if necessary. The condition is not dangerous in itself, and ceases when the patient has progressed further into womanhood, but the long-con-tinued dobility may distrible the tinued debility may diminish the resisting power to other diseases, such as tuberculosis. Coften arises from an hereditary tendency, and great care must be taken to avoid relapses, which are very apt to occur.

Chlorovaleric Acid, a chlorine substitution product of valeric acid. When the anhydrous valeric acid is mixed with red phosphorus and dry chlorine passed into the mixture in the presence of sunlight, an atom of chlorine is substituted for an atom of hydrogen.

Chlumetz, a tn. of Bohemia, situated on the R. Cidling, 46 m. N.E. by

E. of Prague. Pop. 4000.

Chmielnik: 1. Town of Podolia. Kamenets-Russia, 93 m. from Also written Kunneman. 00. 2. Town of Russian nemert. 18 m. Podolsk. Pop. 11,000. 2. Town of Russian Poland, Kielce government, 18 m. from Kielce. Woollen-cloth manu-

found in the chalk. The popular name is given to it on account of its radiating appearance.

Choate, Joseph Hodges (b. 1832), American lawyer and diplomat, born at Salem, Mass. His father, George C., was a doctor of some reputation and brother of Rufus C. (q.v.); he was educated at Harvard, 1852-54; admitted to the New York bar, 1856. He practised with brilliant success. powers of cross-examination making his reputation. In 1871 he became a member of the 'Committee of Seventy' which broke up the corrupt 'Tweed Ring' which ruled New York municipal politics. In 1894 he was president of the New York state constitution convention, and in 1899 he was appointed by President McKinley as ambassador to Great Britain. He was very to Great Britain. He was very popular and assisted greatly in the growth of a good feeling between the two countries; he was succeeded in 1905 by Mr. Whitelaw Reid. In 1907 he was the representative of the United States at the second peace conference at the Hague.

Choate, Rufus (1799-1859), American lawyer and politician, born at Ipswich, Mass.; educated at Harvard, 1820; called to the bar, 1823, and practised at Peabody. He was member of Congress, 1830-40, and of the Senate, 1841-46. He was a man of scholarly attainments and a re-

markably fine speaker.
Chobe, a tributary of the river
Zambesi, South Africa. It was dis-covered by David Livingstone, 1851. It forms part of the boundary between

British and German territory.
Cho-Bo, a tn., Tong-king, French
Indo-China, situated on the Song Bo (Black R.) at the point where the river bends N. before it enters the Song Koi (Red R.). It is an important trading centre, and gold is worked in the neighbourhood.

Chocolate, see Cocoa.

Choctaws, Chahtas, or Chacatos, a tribe of N. American Indians of the Muskhogean family, now largely intermarried with white and negro stock. They are citizens of the States. numbering about United original hunting 18,000. Their grounds were the southern part of the Mississippi valley, but since 1830 they have been settled in Oklahoma (Indian territory). They sided with the Confederates in the Civil War, and suffered the loss of all their rights; their slaves were set free and their land taken. They are included among the more highly civilised

tribes of N. America. Their custom of compressing the heads of male infants carned the name of 'flatheads' for them. The C., like all the Muskhogean stock were among the most warlike and fierce of all the

American Indians.

Chodowiecki, Daniel Nicolas (1726-1801), Polish painter and engraver, born at Dantzic; his father being dead, he supported himself and his mother by miniature painting. In 1756 the Berlin Academy interested itself in his work through a small engraving entitled 'Passedèx.' He then became well known and appreciated as an illustrator of artistic books. He produced the famous set of miniatures, 'The History of the Life of Christ,' but of the 3000 works catalogued in his name only a few are worthy of mention, such as 'Jean Calas and his Family,' 'Hunt the Slipper,' and several engravings illustrating incidents in the Seven Years' War. He has occasionally been known as 'the German Hogarth,' possibly because of his truthful representation of actual life and the skilful arrangement of his drawings. He became the director of the Berlin Academy in 1797. His brother Gottfried (1728-1781), and his son Willelm (1765-1803) assisted occasionally

in his work.

Chodzko, Alexander (1804-91), a
Polish poet and Oriental and Slavic
scholar. He was appointed Russian
consul to Persia, 1829, and made a
special study of the language and
literature of that country and also of
other Oriental languages. In 1842
he went to Paris, and in 1858 succeeded Mickiewicz as professor of
Slavonic literature at the Collège de
France. He translated many Persian
poems, among others fifty-two of the
Téaziés, lamentations or miracleplays concerned with the deaths of
Hassan and Hoseiu. He published
Popular Poetry of Persia, 1842; Fairy
Tales of the Slav Peasants and Herdsmen, trans. into English, 1895; a Persian grammar, and many other works.

Cheeropotamus, a fossil genus of artiodactylous mammals, belongs to the family Suidæ, and is a near ally of the wild boars. This genus of hogs was established by Cuvier, and the species have been found in the Upper Eocene.

Cheeropus castanotis, the pigfooted bandicoot, an Australian marsupial of the family Peramelide. It is an omnivorous, burrowing animal with long ears and tail, and the two well-developed digits on its fore-limbs give them a pig-like appearance.

Choga, or Kioga, one of the chain of lakes in Uganda, E. Africa, form-

ing a kind of extensive backwater in the head-waters of the Nile. It is marshy and shallow, 20 ft. being its average depth; length 85 m.; breadth 13 m. It receives two rivers, Mpologoma and Seziwa, in addition to the White Nile which flows through it.

Choir, formerly spelled quire, as it is pronounced (from O.F. cuer, mod. cheur; Lat. chorus), the name of the trained or organised body of singers who take part and lead in the musical portions of a church service, or perform portions of the service alone, where the congregation do not join, as in the singing of anthems. The term is also applied to a body of male and female singers who perform the choral portions of a musical composition. In the Anglican Church, the C. usually consists of male voices only, boys taking the treble or soprano parts, and boys or one or two rare male voices, the alto or contraito parts, and men the tenor and bass. They are usually surpliced. In cathedrals they are divided into two portions, cantoris, i.e. on the precentor's or N. side of the chancel and decani, on the dean's or S. side. The men form a special body attached to the cathedral and are termed vicars-choral or lay-clerks.

to the cathedral and are termed vicars-choral or lay-clerks. Choiseul, Etienne François, Duc de (1719-85), a French statesman, eldest son of François Joseph de C., Marquis de Stainville (1700-70), born in Lorraine on June 28. He entered the army and fought in the war of the Austrian Succession. He became licutenant-general after seeing service in Italy and Bohemia, and in 1750 he married Louise Honorine, the wealthy daughter of Louis François Crozat, Marquis du Châtel. In 1753 he was ambassador to Rome, and in 1757 was transferred to Vienna through the assistance of Madame de Pompadour, whose friendship he had secured by a private service. His skill and

Marine, and again Minister of Foreign Affairs in 1766. Having failed in his Austrian policy he strove to retrieve the situation by an alliance with Spain, known as the 'Family Compact,' but it was too late to save Canada or the French possessions in India from Great Britain, and he turned his energies to fresh colonies in the Antillies and San Domingo. In 1768 he annexed Corsica with the hope of its future use in the colonisation of Africa. At this period he devoted much time to strengthening the French army and the navy; among his many reforms in the army

was the suppression of 'the farming as in strangling, hanging, or garotting, of the companies,' and the substituthe heart and lungs are paralysed, of the companies,' and the substitu-tion of voluntary enlistment as a tion of voluntary enlistment as a contract with the state. His own ruin was caused by his assisting Madame de Pompadour to expel the Jesuits from France; at her death the Chancellor Maupéou, aided by Madame du Barry, petsuaded Louis XV. to dismiss him, and he then retired to Chanteloup. In 1774, Louis XVI. recalled him, but did not restore him to favour. C. was a man of great ability, but without perseverance. ability, but without perseverance. He has been accused of exciting the war between Russia and Turkey (1768) from motives of revenge. He died in Paris on May 8, leaving huge debts, which his widow paid for him.

dept. of Seine, situated on the l. b. more malignant disease, Asiatic of the Seine, 7 m. S. of Paris. Its C., has its home in India, parmanufactures are soap, chemicals, ticularly in the lowlands of Bengal,

glass, morocco leathe and porcelain goods, is buried Rouget de

poser of the 'Marseillaise.'

Choke-cherry, a name given to several species of rosaceous plants in the genus *Prunus*, which are all natives of N. America and have astringent fruit. P. virginiana, the common C., is shrubby in habit and bears its small drupes in racemes.

charged with a large amount of sequently in Germany and Russia; carbon-dioxide, symptoms of suffocation occur through deficient oxidation of the blood.

Choking, suffocation by obstruction or compression of the windpipe. Any object indrawn into the windpipe when swallowing food is usually the cause of C.; such objects, fish-bone, piece of bread, etc., become im-pacted in the glottis, at the top of the windpipe, blocking the passage. Chil-dren, also, often get buttons, small coins, etc., lodged in the same place. The natural response of nature is to cause a fit of violent coughing which removes the obstruction. Failing this, where cases threaten to prove fatal

breathing ceases, and death occurs in a few seconds. It should be noticed

a few seconds. It should be noticed that in execution by hanging, C. does not occur, death being produced by dislocation of the neck vertebre.

Chola, the name of an anet. div. and dynasty of the Tamil country, India, between the Cauvery R. and the S. Penner, Madras. The whole southern peninsula of India was once southern peninsula of India was once ruled by the C. dynasty. Its history began in A.D. 860, but gradually declined, and was extinguished in the

11th century.

Cholera, a name given to a number of diseases characterised by the discharge of a watery fluid from the bowel. Such a disease, under the name χολέρα, is alluded to by Hippo-See Horace Walpole, Memoirs of the Reign of George III., ed. by G. T. R. Barker (London, 1894); Mémoires du crates, Galen, and other a 1904; Edinburgh Review, July 1908.

Choisy-le-Roi, a tn., France, in the cholera nostras or summer C. Cart of Scine situated on the 1. b lunger malienant, disease. crates, Galen, and other ancient writers on medicine, who probably referred to what is now known as Asiatic

confined to eastern countries 19th century. In 1817 an of C. spread from India to

Japan in one direction and in the other reached Astrakhan in 1823. Another epidemic started in India in 1826, reached Astrakhan in 1830, Moscow and Berlin in 1831, Paris and the British Isles in 1832; it was carried by emigrants to Canada in the same year, and raged with varying virulence until 1838. The next great bears its small drupes in racemes.

Choke Damp, the miners' term for carbon dioxide. Under ordinary circumstances it may be found in recesses or badly ventilated places in the mine, but is formed in huge quantity when an explosion of coalgas mixed with air occurs, owing to the combination of the carbon of the gas and the oxygen of the air. When formed in this way it is known as after-damp. When the atmosphere is collearged with a large amount of sequently in Germany and Russia;

1.956 cases the disease in Europe, in Arabia, s well as in Asiatic C.

is a micro-organism which invades the intestines and develops there. R. Koch found in the stools of C. patients a microbe of the genus spirillum, which he called the spirillum, which he called the comma bacillus on account of its shape, and which he asserted was the cause of the disease. It is a very motile organism, possessing a single long flagellum and appears only in the intestinal tract. Cultures of this by asphyxiation, tracheotomy must be performed. In cases of external weakly organism, unable to live at a compression of the windpipe, such temperature above 60° C. or in the comma bacillus could be responsible hours until green stools appear, when for such widespread and obstinate outbreaks of disease, and many attempts were made to account for its virulent nature under certain conditions. The outcome of the investigations seems to credit the microbe with two or more stages of development. Like many other parasites, when it emerges from the human body, it has to develop under certain other conditions of temperature, moisture, and food, before it regains its virulence. This accounts for the fact that direct contact with a C. patient, or even the swallowing of ejected germs is not highly dangerous, though the exposure of the smallest quantity of the dejects of a patient may subsequently lead to a serious extension of the epidemic. The disease may be both air- and water-borne. In Hamburg the drinking of unfiltered river water was undoubtedly the cause of the outbreak of 1892, as in Altona, where the water was filtered, the population escaped except for cases imported from Hamburg. The symptoms are usu-ally classified in three stages. There is first of all a preliminary diarrhea which may not occasion alarm; the characteristic C. attack follows, including vomiting and profuse liquid evacuations. These are very frequent, and soon become of the colour and consistency of rice-water or thin gruel. Owing to the great loss of water, other secretions are lessened, the urine becomes totally suppressed. the skin shrinks and assumes a grey tinge, the calves and other muscles are cramped, and the patient suffers from an unquenchable thirst. The third stage may be asphyxia or reaction. In the asphyxial stage the skin becomes dark grey and the circulation of the blood becomes more and more sluggish, until the cutting of a vein fails to produce any outflow of blood. If the patient survives, he proceeds to the stage of reaction, when cyanosis vanishes, the evacuations resume their yellow colour, the urinary secretion returns, and the circulation improves. There is always danger of a relapse, and the occurrence of the so-called C. typhoid may lead to death. The average rate of mortality in an epidemic is about 50 per cent. Curative treatment should commence with the prelimi-nary diarrhea. When C. is threatened, all cases of diarrhea should be also called the *limping iambus*, and suspected. The patient should take was used by Greek and Roman poets to bed and endeavour to produce a to give a satiric or ludicrous effect.

presence of any acid, being at once mild perspiration. Opium should be killed by drying, and readily overgrown by other bacteria. When these doses, and if the diarrhea becomes facts were established, scientists worse, doses of calomel ('3 to '5 grs.) found it difficult to believe that the should be taken every one or two sumed. If the real C. attack follows, the success of any treatment is doubtful. A little brandy should be given, and a mustard plaster applied to the abdomen. Hot baths are sometimes advocated to stimulate the peripheral advocated to stimulate the peripheral circulation, but pronounced though transitory relief can be afforded by injecting fluid into the veins. Preventive measures are of the utmost importance when C. is threatened. There should be the utmost cleanliness in everything concerning the water supply and the disposal of several travelers chould be less under age. Travellers should be kept under inspection, and public authorities should thoroughly disinfect all dustbins, water-closets, etc., whether owned privately or not. The in-dividual should practise personal cleanliness, boil all water and milk before drinking, avoid uncooked fruit and excess in alcoholic liquors, but should endeavour to make as little change in his habitual diet as possible. It should be remembered that any gastric disturbance acts as a predisposing factor, and even undue alarm may therefore indirectly cause an attack. Vigorous people of middle age are seldom attacked, and the number of cases seldom exceeds 2 per cent. of the population.

Cholera nostras, European C., or summer C., is a disease which occurs in scattered cases and in its symptoms provides a mild parallel to Asiatic C. It generally occurs in summer, and should be treated by frequent

doses of tincture of opium.

Cholesterin, an alcohol occurring as a constituent of bile, gall-stones, eggyolk, nervous tissues, and blood. It is a white crystalline substance, scapy to the touch, insoluble in water, but soluble in hot alcohol or chloroform. It is said to neutralise snake-poison.

Cholet, a tn., France, in the dept. Maine-et-Loire, situated on the r. b. of the Maine, 30 m. S.W. of Angers. Cotton and woollen goods, flannels, handkerchiefs, etc., are manufactured, and there are bleaching and dyeworks, and tanyards. A dark granite is obtained in the neighbourhood. possesses large cattle markets. Pop. 19,750.

Choliambic, the name of an iambic trimeter, which had a spondee or trochee instead of the normal iamb in the sixth and last foot. It was

Cholon (Cholen), a tn. of French are no temples left, or inscriptions on Cochin China, about 4 m. from anything, but monolithe 6 or 7 ft. Saigon. Founded in 1778 by Chinese high, stone figures of animals, idols. emigrants from Bien-hoa and Mytho. Rice and export trade. Pop. about

42,000 (mostly Chinese).

Cholula, a city of Mexico, situated 12 m. W. of La Puebla, and about 60 m. S.S.E. of Mexico. It was formerly the capital of an independent district, and the seat of the old Mexican religion. At that time, under the name of Chumltecol, it possessed over 400 temples. The ruins of one of these are existing, and upon one of its highest platforms a church has been built, cruciform in shape, and 90 ft. in length.

Choluteca, a dept. and tn. of S. Honduras, with Gulf of Fonseca on S., Goascorán R. on W. The town is 70 m. from Tegucigalpa, and has large public buildings. Mining is carried on. Pop. 45,000; town, about 10,000.

Chomatodus, the name given by Amaria for an analysis of the group Theorem 1997 and replaced by the transition of the family Petalodontide, and are found in the mountain limestone of Great Britain, Europe, and N. America.

Chondracanthus, a curious genus of parasitic crustacean in which the large females attach themselves to the gills of living fish, and the small males attach themselves to their

feminine counterparts.

Chondrites, a genus of fossil sea-weeds of fucoid form. The species range from the Cambrian to the

Tertiary.

Chondropterygii and Cartilaginei, old names for the large sub-class of fishes now called Elasmobranchii. They are noted for the cartilagin-ous substance of which the bones are formed, and are represented by sharks and rays.

Chonos Archipelago, a group of a thousand rocks, islands, and reefs off the W. coast of Chile between lat. 44° and 46° S. They are mostly un-

inhabited, and are separated from the mainland by the Moraleda Channel, Chontals (Lencas), a widespread race belonging to Central America. Their domain was formerly in the castern parts of Honduras and Nicarotte and a contract of the castern parts of Honduras and Nicarotte and a contract of the castern parts of the castern parts of Honduras and Nicarotte and a contract of the castern parts of the castern ragua, and a few straggling settle-ments in Guatemala, Chiapas (S. A good Mexico), and Costa Rica. number of these people are still to be seen in parts of Nicaragua, and surrounding districts of Honduras. The Aztecs look down upon the C. and call them aliens or barbarians, but as a matter of fact they are more or less civilised, as proved by ruins and objects found in the graves in districts where they once dwelt. There

gold ornaments, and earthenware pots have been found in large quantities.

Chopin (Old Fr. chopine, a liquid measure), an old English liquid measure equal to half a pint; an old Scottish measure equal to nearly a quart: a French measure, before the

introduction of the metric system, equivalent approximately to a demilitre.

Chopin, Frédéric François (1809-49), a Polish musical composer and pianist. He was born near Warsaw, and began his musical training at the age of nine under Ziwny, a pupil of Sebastian Bach. Prince Radziwill Sebastian Bach. Prince Radziwill sent him to Warsaw College, where his genius began to assert itself. Later on he became a pupil at the Warsaw Conservatory, and there thoroughly mastered the science of music. His fellow students introduced him into the highest society, and he soon developed the romantic spirit of the Polish race. He embraced the imaginative melancholy of the peasant as well as the grace and culture of the Polish aristocrat, and his character shines out through all his compositions. He went and settled in Paris and lived and worked among the élite, and it was here he met with George Sand, and that extraordinary friendship arose. C. early in life developed consumption, which must have made all labour very arduous. He is buried in Pè--Belli

owin

genius; they are extremely beautiful and full of poetic imagery. He mostly employed dance forms round which to weave his melodies. With regard to his technique on the piano he was among the finest executants, and he introduced the free use of the thumb on the black keys which revolutionised all plano playing. See Cuth-

bert Hadden, Chopin. Chopine (Sp. chapin), a very high clog or patten, sometimes half a yard high, of Oriental origin, introduced into England from Venice in the

reign of Elizabeth.

Chopra, or Chopda, a tn. in Khandesh dist., Bombay, India, 105 m. from Indore. Exports linseed and

from Indore. Exports linseed and cotton. Pop. 18,000.
Chop-sticks, the implements used by the Chinese and Japanese to pick up their food with—a substitute for our knife and fork. They are made of either ivory or wood, and held between the fingers and thumb of the right hand in much the same way as sugar-tongs.

Choragus, in ancient Greece, the

the expense of the chorus furnished by each tribe for public festivals, and also to the musician who directed the The most successful tribal chorus. C. in competitions was rewarded with an engraved tripod, which he consecrated and set upon a monu-The choragic monuments of Thrasyllus and Lysicrates still exist

at Athens. Chorale, the name applied to a particular form of musical composition for voices which was introduced by Luther into the services of the German Reformed Church. The words were often in the vernacular and in the form of hymns. The music was not always original, being sometimes secular and sometimes adapted from hymn tunes of the Roman Church. Luther and his friends, Walther and Senfi, published the first important set of chorales at Wittenberg in 1524. Choral Service, the services in the English and Roman Churches where not said.

Chord, in music, the simultaneous sounding of notes of different pitch.

The common C. consists of a note with its third and fifth. In geometry, a C. is a straight line joining two to her own room and in bed, and in points on the circumference or curve of a circle, ellipse, parabola, etc. In a circle, the greatest C. is a diameter,

ing of all anim. period of their functions as_a notochord. Ir members of t rod is present stages of their l members it is

the adult by the spinal column. Other universal features are the presence of gill-slits and a central nervous system. Zoologists are by no means agreed upon the creatures which may be included in the C., and though the Amphioxus and all vertebrates have an assured position, opinions vary as to the claims of such lower forms as the Tunicata and Enteropneusta. Chorea, or St. Vitus Dance, a nerve

disorder which attacks both children and adults, but the great majority of cases occur in the former between about eight and fifteen years of age. That occurring in childhood is called 'common C.,' and is met with much more frequently among girls than among boys. Its presence is shown by over the muscles of the affected part, it is now generally eliminated from but unaccompanied either by pain or the vocabulary of scientists.

name given to the citizens who bore rigidity. The muscles of the face are rigidity. The muscles of the lace are most frequently affected, then the extremities of one side of the body, and after them come those of the body, and in very severe cases all at once. When the limbs are affected the movement of the body and the walk of the affected person becomes unsteady or jerky, while if the whole body is affected the patient is unable to walk without spasmodic immings. to walk without spasmodic jumpings from the ground, and in many cases must be confined to a padded room. Thus it is evident that the disease, it not taken in time, may develop into one of a more serious nature, hence a doctor should be consulted in the first place. The disease has probably a connection with rheumatism, since it occurs generally in children with a rheumatic tendency, and sometimes is accompanied by acute rheumatism, or there is even danger of rheumatic Also there are symptoms of fever. heart disease, which may be brought on in its lower stages. A child which the psalms, responses, etc., are sung, suffers from C. has probably been

or fright, and est; or there

order that she shall suffer from no excitement, contact with friends or relatives forbidden. Nutritious diet and the length diminishes as it recedes and a metallic tonic, such as zinc, from the centre. The perpendicular iron, or arsenic, should be given, the drawn from the centre bisects the C. last being perhaps the best, and additional control of the centre bisects the C. last being perhaps the best, and all the form of Fowler's

The attack generally lasts months, but as it is liable the child should be given open-air exercise, gymnas-ood feeding.

raphy, the art of dancing i.e. a system of signs novements in dancing is shown, the same as notes in music represent certain sounds. Beauchamps, the dancing master of Louis XIV., developed this art. Saint-Leon has written one of the best works on this subject entitled Stenochorégraphie.

1852. Choriambus, in classical prosody, a foot consisting of four syllables, of which the first and last are long, the second and third short (- -). takes its name from its supposed composition from the union of a trochee

(choree) and an iambus. Chorion, a term which has been used in several confused senses by embryologists in connection with the early development of mammalian young. It was applied particularly to the union of the false amnion with nervous twitchings of the head, face, to the union of the false amnion with or limbs, due to great want of control the allantois or with the yolk-sac, but

Chorley, a municipal bor, and tn. of Lancashire, England, situated on the R. Chor, 20 m. N.W. of Manchester. The manufacture of cotton yarn and goods is largely carried on, and there are calico printing, bleaching, and iron works. Coal, iron, lead, and slate are found in the neighbourhood.

Pop. (1911) 30,315. Charley, Henry Fothergill (1808-72), an English musical critic, born at Blackley Hurst, near Billinge in Lancashire. In 1833 he was engaged by Dilke to work on the Athenaum, and he very soon was made head musical editor. He held this position until 1866, when he retired. He wrote some novels, but they were all unsuccessful. He got three plays acted, however. He was decidedly narrow in his views on musical composition, and although well intentioned he was a great opponent to the ultra-modern spirit as declared by Wagner and Berlioz. His best works are: Music and Manners in France and Germany, 1841; Modern German Music, 1854; and Thirty Years' Musical Recollections, 1862.

Chorlu, or Tchorlu, a tn. and river in Turkey, 60 m. W. by N. of Constanti-nople. Scene of much sanguinary fighting between the Turks and Bul-

garians in 1912. Pop. 10,000.
Chorokh, or Zhorokh, a riv. of Transcaucasia. It rises on the side of Kazan Mt., N. of Erzerum. It is about 215 m long and a long and a long and a long and a long a long and a long a about 215 m. long, and drains 10,500 sq. m. of country. It flows into the Black Sea near Batum. Its chief tributary is the Olti-chai.

Chorostkow, a tn. in Galicia, Austria, 30 m. from Tarnopol. Pop. Galicia, 6500.

Chorotegans, one of the cultured races of Central America. Their land extended from Fonseca Bay to the E. side of Lake Nicaragua. At present they have nearly all become swal-lowed up in the Spanish-American communities of Honduras and Nicaragua, and as a matter of fact they now form the main constituent element. They acquired a fairly large amount of culture under Aztec and Maya influence, but the early missionaries which came over from Spain had their temples destroyed, their idols broken, and their graves de-spoiled. On the islands of Lake Nicaragua are some colossal basaltic monoliths which are supposed to be of Chorotegan origin. They are for the most part in the form of human

figures, but very rudely carved.
Chorrera, a tn. near the Pacific coast of Panama, 15 m. from Panama.

tween the seaport of Samsun and Kaisarieh. This makes it a place of some commercial standing. manufactures are earthenware and leather. Pop. 12,500.

Chorus, a word which originally in Greek meant a dance (χόρος) accompanied by singing, employed at festivals in honour of the gods, especially of Dionysus, and thus developed into the songs accompanied by rhythmic movement forming the lyric parts of the Greek tragic and older comic drama. It is thus applied to the body of singers in opera, oratorio, cantatas, etc., who sing the music written for large groups of voices in parts for each type of voice, soprano or treble, contralto or alto, tenor, and bass. A C. may be distinguished from a glee which is properly written for single voices to each part. Hence when a portion of a song is to be sung, not by a single singer but by a number of singers, it is styled a C. In the Elizabethan drama, the word is applied to a single character who spoke the epilogue and prologue.

Chorzow, a vil. in Silesia, Prussia. It has rich coal mines, and also iron

and zinc works. Pop. 9000.

Chose in Action, in its general sig-nificance, means all rights over property which, in contradistinction to those which can be asserted by taking physical possession of the property. can only be enforced by action. It is, however, a term of many shades of meaning, all of which have been the subject of much legal controversy. In its other but related senses it may mean the property itself which is the subject of personal rights or the instrument which evidences those rights. In the sense of the property itself the term has been held to comprise, inter alia, shares and stock in companies, insurance policies, patents, debentures, tithes, negotiable instru-ments, debts of all kinds, annuities, trusts, legacies, reversionary interests, and advowsons. In contradistinction to choses in possession (a thing of which a person has physical possession), Cs. in A. were not transferable shoth, Cs. In A. were not transference at common law, but by the custom of merchants, the rules of equity and statute law, certain Cs. in A. became assignable, and hence it was that prior to the Judicature Act, 1873, Cs. in A. were commonly classified according to the mode of assigning them. Cs. in A. not being assignable at common law, the result was that a person who purported to assign could not maintain an action in his own Pop. 6200.

Chorum, a tn. in Angora, Asia Judicature Act, 1873, all Cs. in A. are made assignable by agreement in situated on the road which runs be-writing signed by the assignor, provided written notice is given to the debtor or trustee, and the assignment is absolute and not by way of charge. See Goodeve's Modern Law of Personal Property, 1904.

Choshi, a tn. in Japan on the E. coast of Nippon, 72 m. from Tokio. The chief industry is fishing, and fish oil is manufactured. Pop. 36,500.

Chos-Malal, cap. of the Neuquen

chos-Maial, cap. of the Neuquen ter., Argentina, at the junction of the Neuquen and Leubu, 465 m. from Bahia Blanco. Altitude 2590 ft. Chosroes I. reigned over Persia 531 to 579 A.D. His name 'C.,' or rather 'Khosrau,' means 'with a good title,' and his wise and beneficent rule earned him the appellation of 'Blessed' ('Annshirgan'). In of 'Blessed' ('Anushirvan'). In 540 he broke his peace with the Emperor Justinian, invaded Syria and carried off the inhabitants of Antioch to a new city called Khosrau-Antioch. In 562, after successive warfare against the Romans in Lazica (Colchis) and Mesopotamia, he made a peace whereby the Romans agreed to pay subsidies but kept Lazica, whilst C. agreed not to persecute the Christians. Uniting later with the Hephthalites against the Turks, C. proceeded to conquer Bactria, and in 570 he made Yemen a Persian dependency. This ruler was therefore a great conqueror, but he was also a great statesman; for he introduced a land basis for taxation, built canals in Babylonia, was tolerant towards Christian and other sects though a convinced Zoroastrian, and patronised literature.

Chosroes II. (A.D. 590-628), was far inferior both in statesmanship and strategy to his grandfather, C. I. Prone to luxury, he succeeded finally, by his haughty bearing and heedless avarice and cruelty, in alienating the affections of all his people and in reducing the mighty Persian empire to a state of miserable and desperate chaos. With the help of the Emperor Maurice he defeated the usurper Bahram Chobin in 591. Three years later he began war against the Christians and Rome, ostensibly to avenge the murder of his ally, Maurice. His predatory armies overran Syria and Asia Minor, and his general, Shahr-baraz, captured Damascus and baraz, captured Damascus and Jerusalem (614). Even Egypt fell a victim to Persian rule. But between 622 and 629 the Emperor Heraclius recovered all the recent conquests and restored the Holy Cross to Jerusalem. C. was assassinated, his Jerusalem. C. was assassinated, his eldest son being proclaimed king in his stead.

Chota Nagpur, see Chutia Nagpur. Chouans, a lower Breton word, meaning a 'screech-owl.' This name was given to a company of smugglers, mouth is also black. Its coat should

who revolted during theFrench Revolution and joined the Royalists at La Vendée. They were led by a man called Jean Cottereau (1767-94), a dealer in contraband salt, whose trade was ruined by the destruction of the inland customs. Under his leadership the C. carried on a guerrilla warfare against the Republicans; his company soon grew into an army which was known as La petite Vendée. Cottereau was killed in an ambuscade. and his place was taken by Georges Cadoudal (1771-1804). The insurrec-tion then spread through Brittany and the W. of France. The devotion of the Bretons and the energetic skill of Cadoudal made this revolt The little menace to the Republic. army had grown to 10,000 men, who regarded the revolt almost as a holy war; they were finally beaten by La Hoche at Quiberon (July 20, 1795). Cadoudal was imprisoned but escaped, and though open warfare was now impossible, he continued plotting; he was arrested and executed in Paris, June 1804, with several others. This ended any serious attempt at a fresh revolt. See further VENDEE.

Chou-chia-kou, a market tn. in Ho-nan, China. It is situated at a point where many rivers converge (giving access to all the N. part of the province). This makes it a very im-

portant trade centre. Choughs constitute the sub-family Fregelinæ of the crow family or Corvidæ, and are allied to the mag-pies and jays; the name is given to them in imitation of their cry. The species are usually black, with red feet, and a long, powerful yellow or red beak; the claws are long and hooked. In diet the C. are frugivorous and insectivorous. F. graculus, the Cornish C., and Fyrrhocorax graculus frequent British sea-coasts; P. Alrives is to be found in the P. Alpinus is to be found in the Alps.

Chouquet, Adolphe Gustave (1819-86), a French musical writer, born at Havre. He composed several light works, but is best known as being a writer on musical history. In 1874 he was the keeper of the collection of musical instruments at the Academy of Music at Paris, and he issued an illustrated catalogue of same in 1875. His chief work is L'Histoire de la Dramatique Musique enpublished in 1873.

Chow-chow, a Chinese dog, popular in Great Britain as a pet dog. China it is killed and hung up for sale in the meat-shops. It has a piquant expression, is an intelligent companion, and a good house dog. Its chief peculiarity is that it has a black tongue. Occasionally the roof of the

be all of one colour—black, red, Church for anointing in certain sacra-yellow, blue, or white—but not in ments; in the orthodox church it is patches. White spots on the coat is mixed with spices. Children were a disqualifying point. The hair under the tail and under the thighs is frequently of a lighter shade in the same colour. Other points to notice are: Head broad and flat; nose moderate in length, but short tipped; nose and mouth black; eyes small and dark; ears alert and carried erect and well over the cyes; neck broad and firmly set; legs strong, bony, and ear-like; chest broad and deep. The C. has a deep ruff round the neck, and a hairy, full tail, curled over the back. It weights from 46 to 55 lbs.

Chrestomathy (Gk., 'good learning'), a collection of the best extracts from any author or authors, with notes. The term is especially applied to such a compilation in a foreign language, viz. a Hebrew C. The best one of modern times is Chrestomathie du Moyen Age, by G.

Paris, 1908.

Chrétien (or Crestien) De Troyes, the most famous of French mediæval poets. He was born at Champagne, but unfortunately there are but few exact details with regard to his life. There is also a difference of opinion as to the dates of his poems. At the command of Marie, Countess of Champagne, he wrote Chevalier de la Charette, and he wrote Le Conte del Graal and Perceval for Philip, Count of Flanders. This prince was regent for the young King Philip Augustus from 1180-82, and as C. says the story of the Grail was the best tale told au cort roial, we have reason to believe that it was written during the regency. It is thought that the probable time of his literary activity was between the years 1150 and 1182 when his patron, Count Philip, fell into disgrace at court. There are a few of C's poems extant, most of them dealing with Arthurian legends. There also exists a poem entitled Guillaume d'Angleterre which is supposed to have been written by him, but it is a matter of debate. Professor Foerster claims it as a genuine article, but Gaston Paris does not accept the statement. His poems enjoyed great popularity, and the three favourites were Erec, Yvain, and Perceval. His style of writing is easy and graceful, and he is also analytic and dramatic, but he has no great depth of thought or power of charac-His manuscripts are the terisation. earliest Arthurian romances that we possess.

Chrism (Gk. χρίσμα, a substance used in anointing, from xpiew, to anoint, the N.T., and baptise by total imthe consecrated olive oil mixed with balm, used by the Roman Catholic have grown into an influential body.

Chrisome, the robe presented to infants when baptised in the Roman Catholic faith, and is to symbolise innocence. It represents the original 'C.' cloth which used to be placed on the head to prevent the chrism oil being rubbed off. A 'C.' child is one who dies within a month after baptism, in which case the C. is used

as a shroud.

Christ, a transliteration of the Gk. Χριστός, anointed, from χρίειν, to anoint, usually with the definite article, 'the anointed one,' the Christ, and used in the Septuagint version of the O.T. to translate the Heb. Mashiyah, Messiah, the anointed one, a word which to the Jews of latter times implied the great earthly King who would restore their kingdom and free them from the subjection in which they were held (see MESSIAH). While in the O.T. the word is used in the LXX. not always with this sig-nificance of a Messianic coming, in the N.T. it always refers to the claim of Jesus to fulfil the Messianic prophecies, but in a spiritual sense as the phecies, but in a spiritual sense as the bringer to mankind of a spiritual kingdom and of freedom from the subjection not to earthly rulers but to sin. C. is thus properly a title of Jesus, the Lord (Κύριος) Jesus, the Christ (ὁ Χριστός). When He asks his disciple, 'Whom think ye that I am?' Peter answers, 'The Christ.' The high priest asks Him if He were The high priest asks Him if He were 'the Christ.' In the beginning of the 'the Christ.' In the beginning of the earliest certain Christian document that we possess, the first epistle of St. Paul to the Thessalonians, most probably not later than A.D. 52, the Church is addressed as in 'the Lord Jesus Christ.' It may be noted that 'Christ,' alone or with 'Jesus' or 'Lord Jesus,' is far more frequent in the Epistles and Acts than in the Gaspals. From the explications it is Gospels. From the earliest time it is the spiritual Messianic side of Jesus' mission that is stressed, and it is plain how the name of His followers should have been from the first 'Christians' (Xpioriazoi). The first letters of the name in Greek, XP, formed the monogram of Constantine's labarum, and have always remained a favourite symbol in Christian art. See Jesus Christ and MESSIAH.

Christ, Disciples of, or Campbellites, a religious sect founded by Alexander Campbell (1788-1866). They do not have any creeds or confessions, they take their religious ideas direct from

Christadelphians (Gk. 'brethren of is roofed with one of the most beauti-Christ'), a religious sect in Britain and America. They reject the term 'church,' and meet in what they call 'ecclesia.' They look upon themselves as being 'called out' from the world and from among people pro-fessing Christianity, and they adopt the doctrines declared by Jesus. They have no ministers, and no rulers, and hold their meetings, in the absence of the Spirit, on a basis of brotherly love. They 'break bread and have biblical discussions. Their creed is apparently in conditional immortality, as 'the son of God by conception and the son of man by birth.' They also believe the kingdom of God to be a divine political government, and on Christ's second coming this government will be established all over the world, with Jerusalem as a sort of headquarters. This sect was founded by John Thomas of London in 1848, and later spread to America.

Christ Church (Lat. Aedis Christi, popularly called 'The House'), acollege of Oxford University, England, and the largest collegiate land, and the largest collegiate foundation in Oxford. It was com-menced by Cardinal Wolsey in 1525, menced by Cardinal Wolsey in 1929, on the site of the priory of St. Frides wide, which Wolsey had suppressed on Pope Clement VII.'s authority for the purpose of founding a college. The church of St. Frideswide became both the cathedral of the diocese of Oxford and the college chapel. college was first called Cardinal College, and on the fall of Wolsey, Henry VIII. suppressed the name and called it Henry VIII.'s College. In 1546 the foundation was established as it. lished as it :

a dean, who dean of the c cathedral staff, and the 'students.' the fellows (senior students), and Five of the canons are university professors, the duties of a college dean are performed by two of the fellows called censors. Wolsey the fellows called censors. Wolsey began the buildings and in 1665 Dr. began the bulldings and in John Fell completed many of them, though the cloisters Wolsey had designed were never built. The great signed were never built. The great gateway begun by Wolsey was finished by Dr. Fell and designed by Wren; it contains the great bell called Big Tom (St. Thomas of Canrangle is named from a hall occupied the site, and t Canterbury Quadrangle is ca

ful examples of fan vaulting, interest-ing for its late date, 1640. The hall is the finest in Oxford, and boasts some splendid portraits; among them are Holbein's Henry VIII., Wolsey, and others of the many distinguished former members of the college. The library contains a very valuable col-lection of books, also Wolsey's cardinal's hat. The cathedral is small and cruciform. There are traces of Saxon work, but in 1160 it was restored and made Norman. Wolsey surred and made Norman. Wolsey altered it considerably, and Sir Gilbert Scott restored the east end in the 19th century. The building contains specimens of every English style. There is a fine Jacobean pulpit. The nave roof is woodwork, and the choir is roofed with fan tracery in stone. There are some beautiful windows by Sir E. Burne Jones, some 14th century glass, and a curious Dutch window by Abraham van Ling, 1630. The cathedral contains many interesting tombs, and the shrine of St. Frideswide has been discovered and reconstructed. Between the college and the meadows runs the famous 'Broad Walk' planted and laid out by Dr. John Fell in 1670.

Christchurch, a tn., Hampshire, England. Situated at the junction of the Avon and Stour, on the edge of the New Forest, close to Bournemouth. It is a municipal and parliaments the second of the New Forest, close to Bournemouth. mentary borough. It possesses a beautiful church, the priory church of the Holy Trinity, a cruciform edifice, without the central tower and having a 'Perpendicular' tower at the W. end. The nave and transepts are

mainly Norman. The priory of C, is oned in Saxon documents as vineham, and in 901 it was by Edward the Elder. About 1095 it was partially rebuilt and endowed by Ranulph Flambard, Bishop of Durham. It contains the poet Shelley's monument, and many others of interest. The ruins of a Norman castle, built by Richard do Redvers in Henry I.'s reign, are close to the church. The borough was first summoned to send representatives to parliament in 1307. It now, with

Bournament in 1807. It now, with Bournamouth, sends one member to the House of Commons. Pop. 5104. Christchurch, cap. of the provincial dist. of Canterbury in Now Zealand. It is situated on the Avon and conderbury), which came originally from Osnoy Abbey. The first quadrangle, nected by railway, 7 m. long, with its the largest in Oxford, is called the port Lyttleton. The town is built 'Tom Quad.' The Peckwater Quadverse regularly, and has extensive o senside re-

New Brighton. y (University)

the Canterbury College, built in 1905, Conege, to which is attached an which vanished in Wolsey's foundation, lengtheering school and observatory, tion. The staircase leading to the hall a museum and school of art. There

is also a fine cathedral, besides fine parks and recreation grounds. Hagley Park covers about 400 acres. The city is a commercial centre, and its industries are chiefly iron foundries and agricultural implement works. Pop., with suburbs, 80.000.

Christening, see BAPTISM.
Christian, a term applied to a follower of Christ. According to Acts xi. 26, 'the disciples were called Christians first in Antioch,' that is about the year 43. The word only occurs in two other places in the Bible (Acts xxvi. 28, and 1 Peter iv. 16). It is probable that it was not used by the disciples themselves, but was a contemptuous nickname given by their enemies (cf. Tacitus, Annal. xv. 44). According to Baur, the name must, by its derivation in tanus, have sprung up first among the Romans, not among the Greeks. The name could not have originated among the Jews, who called the disciples 'Nazarenes' and 'Galileans,' and would not have given them a name, which meant 'followers of the Anointed.' The early Cs. were sometimes called Chrestiani, by a mistaken derivation of the word from χρηατός, good, instead of χρέεω, to anoint.

Christian, the name of several kings of Denmark and Norway:—

Christian I. (1448-81), born in 1426. He was also King of Sweden (1457-71), and was elected Duke of Schleswig-Holstein (1460). He founded the university of Copen-

hagen in 1478.

Christian II. (1513-32), born in 1481, King of Denmark, Norway, and Sweden, son of King John of Norway Denmark and Christina Saxony, married Isabella of Burgundy. On his accession the Swedes gundy. On his accession the Swedes refused him as king, and headed by Sten Sture held out against him for some time, but were finally defeated at Upsala, 1520. After the heads of the nation had sworn fealty, he gave a banquet and had most of his guests seized and imprisoned. About eight-time persons were executed or eighty-two persons were executed or drowned by his order the following day (the Stockholm massacre). Sweden revolted successfully, while his system of taxation made him hated in Norway and Denmark. Jutland revolted and gave the Danish crown to Duke Frederick of Holstein in 1523. After a long struggle C. was compelled to surrender to King Frederick in 1532, and was kept in solitary confinement for twentyseven years. His passion for his mistress, a Dutch girl of the people named Dyveke, had added greatly to his unpopularity, but he was possessed of great energy, courage, and patriotism. He died in 1559.

Christian III. (1534-59), born in 1503. During his reign he witnessed the completion of the Lutheran Reformation.

Christian IV. (1588-1648), born in Frederiksborg, Zealand, in 1577. In 1611-13 he waged war with Gustavus Adolphus of Sweden, which terminated in the peace of Knäröd. During the Thirty Years' War he suffered defeat in 1626 from Tilly at Lutter, and Jutland was raided by the enemy's troops. He again fought with Sweden from 1643 to 1645, and by the peace of Brömsebro was obliged to yield a great part of his territory around the Sound. C. IV. was, however, a just and broad minded king, and won great popularity among his subjects for his attempts to emancipate the peasantry. He was energetic in promoting commercial enterprise and encouraged science and industry. He founded Christiania, the present capital of Norway in 1624.

Christiania, the present capital of Norway, in 1624.

Christian V. (1670-99), born 1646, was the first king of the Oldenburg dynasty. During his reign Denmark acquired the islands of St. Thomas and St. John in the W. Indies.

Christian V. (1720-16), born chort

Christian VI. (1730-46), born about

Christian VII. (1766-1808), born 1699, the son of Frederick V. He was a man of weak intellect, and rule was exercised by his Struensee and Bernstorff. His wife, Caroline Matilda, sister of George III. of England, and his son, Frederick, acted as regents from 1784 till his death. Christian VIII. (1839-48), born 1786.

1786.

Christian IX. (1863-1906), born 1818. He is closely connected by marriage with many of the thrones of Europe. His daughter, Alexandra, married the late King Edward VII. of England; another, Dagmar, married the late Czar Alexander III.; while his second son, George, is King of Greece (1863). In 1864 C. lost Schleswig-Holstein in war with Austria and Prussia. He has been succeeded by Frederick VIII.

Christian Prince, Frederick Christian Charles Augustus (b. 1831), Prince of Schleswig-Holstein-Sonderburg. A general of the British army, and high steward of Windsor Park, where he has his residence, Cumberland Lodge. In 1866 he married Princess Helena Augusta Victoria (b. 1846), the third daughter of the late Queen Victoria. Her Royal Highness is renowned for her philanthropic work with regard to hospitals and charitable institutions. Their eldest son, Prince Christian Victor, was killed during the Boer War, 1900.

Christian, Edward (d. 1823), an

English lawyer. After a brilliant university career, he entered Grays' Inn worth in his The Religion of Pro-in 1782, and was appointed Downing testants, 1637. professor of laws, Cambridge, in Christian Endeavour Societies. 1788; professor of general polity and laws of England in the East India College, Hertfordshire, 1790; and chief-justice of the Isle of Elv. He edited Blackstone's Commentaries on the Laws of England (4 vols.), 1793-5, and wrote numerous works on legal motto is For Christ and the Church. subjects.

Christian, Sir Hugh Cloberry (1747-98), a British rear-admiral, of a Manx family. He entered the navy about 1761, and in the actions of Grenada (1779) and Martinique (1780) commanded the Suffolk. He took part in the battles of Chesapeake (1781), St. Kitts (1782), and Dominica (1782). In 1795 he became a rear-admiral, and was appointed commander-in-chief in the W. Indies, for which he sailed in 1796, and took part in the conquest of St. Lucia. In 1798 he was appointed commander-in-chief in the Cape of Good Hope, where he died in Novem-

ber of the same year.

Christian Brothers, Roman Catholic institute, founded at Waterford, co. Kilkenny, Ireland, in 1802, by Edmund Ignatius Rice. Mr. Rice had resided in that city as a merchant since 1780, and his pity had been excited by the deplorable state of ignorance and vice in which the poor lived. In 1803 a monastery was built for the school by the citizens of Waterford. Mr. Rice received the support of the Bishop of Waterford, and was before long asked to open houses of the institute in many towns of Ireland. The C. B. are now estab-lished in England and in some of the British colonies. In 1820 they were granted a constitution by the Holy See, and confirmed as a religious institute of the Roman Catholic When the Irish national system of education was established system of education was established (1831), the C. B. for a time accepted the grant by placing their schools under the board, but they later withdrew from the connection as they could not separate secular from religious teaching. The title has given been the erroneously to Brothers of the Christian Schools' founded by the Abbé J. B. de la Salle in France (1684). The system of elementary education given by these French schools was adopted by Mr. Rice in drawing up the rules for his Irish institute.

Christian Connection, a sect for banding together Christians who have no definite creed. They take the Bible as the foundation of their belief and conduct. They were founded in America in the early part of the 19th

These societies have been formed as allies to the church, and use all possible power in exerting influence over young people, in persuading them to follow Christ and dedicate themselves to His service.'

Christian Knowledge, Society for Promoting, see Society FOR Pro-MOTING CHRISTIAN KNOWLEDGE.

Christian Science, the name given by Mrs. Mary Baker G. Eddy (1821-1910) (see EDDY, Mrs.) to a religious system of psycho-therapeutics, first taught by her in the U.S.A. in 1866. This system is embodied in the textbook of the C. S. movement, Science and Health with Key to the Scriptures (700 pp.). This remarkable book, which is Mrs. Eddy's chief work, was first published in 1875, and by Jan. 1909 it had gone through 440 'editions,' and although the cheapest tions, and although the cheapest form of the book costs \$3 (12s. 6d.), upwards of 500,000 copies had been sold. There are those (among them being Mr. S. L. Clemens, 'Mark Twain') who maintain that Mrs. Eddy did not write the book, but her claim to authorship has been upheld (albeit in a negative way) by a United States court (Eddy v. Arens, Others maintain that Mrs. Eddy learned all she knew of the theory and practice of metaphysical healing from a Dr. P. P. Quimby healing from a Dr. P. P. Quimby (q.v.), with whom she was intimately associated for three years before his death in 1866. This Mrs. Eddy denied. maintaining that her system of healing was entirely different from that of Quimby, who practised mesmerism, or, in the technical language of C. S., 'malicious animal magnetism.' But whether or no Mrs. Eddy is under obligation to others in the matter of the paternity of C. S., there can be no dispute that this most extraordinary woman did securely lay the foundawoman did securely lay the foundations of and build up that great and growing edifice, 'The Church of Christ, Scientist.' The C. S. sect (the first church was founded in Boston, U.S.A. in 1879) shares with its contemporary, the Salvation Army (founded 1878), the distinction of being the most significant religious movement in the English-speaking world during the last quarter of the 19th century. Since 1906 the church has not published statistics, but according to the late Mr. F. Podmore (Conlemporary Review, January), in 1909 there were 1100 C. S. churches throughout the world, of which 37 were in the United Vingdom. In that were in the United Kingdom. In that century. Their views are much the year there were in America alone

60,000 professing church members, and there were no less than 4000 C.S. practitioners in different parts of the globe. These practitioners are chartered by the 'Metaphysical College' of Boston, Mass. (opened 1881), to practise mental healing for pecuniary recompense (if desired), and of their number by far the larger proportion are women. Thus (again quoting Podmore) of the 161 C. S. practitioners in the United Kingdom in 1909 only 23 were men. In Boston, U.S.A., is situated the headquarters of the church, and thither repaired 30,000 of Mrs. Eddy's followers when the 'Mother Church' was dedicated in 1906. This Mother Church, or, to give it its other official title, 'The First Church of Christ, Scientist' (the definite article curiously being depied definite article curiously being denied by the by-laws contained in the Church Manual to the branch churches) is a handsome domed temple built of granite, capable of seating over 5000 people. The total cost of this church was £400,000 (of which £8000 was spent on the organ), and its membership runs into five figures. Membership in the Mother Church is acquired or retained by payment of a 'capitation tax' of not less than a dollar. The C. S. Church is governed by a Board of Directors of five persons, and the Mother Church by forty 'First Members.' of Christian Scientists throughout the world has been computed to be fully 1,000,000, and is rapidly the well-Twain (

pp., Harper's) expressed the belief that C. S. is destined to make the most formidable show that any new religion has made in the world since the birth and spread of Mohammedanism, and that within a century from now it may stand second to Rome only in numbers and power in Christonly in numbers and power in Christ-endom.' Of the many publications owned by the C. S. Publishing Society (Falmouth St., Boston, Mass.) men-tion may be made of the Christian Science Monilor, a daily; the Chris-tian Science Sentinel, a weekly; and the monthly official organ of the First Church, the Christian Science Journal. What then is the message of C.

What then is the message of C. S. that has commended itself to so large a number of educated people? What is the 'something in it' that has enabled the sect so to thrive?

course, logically perfect, but the every-day experience of the wayfaring man is that sin and suffering do exist: he needs no more proof than his own unhappiness. This objection is met by the Scientist drawing a distinction between the Divine Mind and Mortal Mind. It is mortal mind-man's mind-which is the prey to its own illusions, the chief illusion being that matter has any reality. Man being, as the Scriptures say, made in the image and likeness of God, is the 'reflection' of the Divine Mind and invited to partake of his birthright: to be, therefore, perfect as his Father to be, therefore, perfect as his Father in Heaven is perfect. On the title page of the C. S. text-book Shake-speare is quoted: 'There is nothing either good or bad, but thinking makes it so.' This idea is elaborated in what is known as 'the scientific statement of being,' as follows: (page 468) 'There is no life, truth, intelligence nor substance in matter. All is infinite Mind and its infinite manifestation, for God is All-in-all. Spirit is immortal Truth: matter is mortal is immortal Truth; matter is mortal error. Spirit is the real and eternal: matter is the unreal and temporal. Spirit is God, and man is His image and likeness. Therefore man is not material; he is spiritual.' If man will but realise his spiritual being, says the Scientist, sin, sickness, death, and all the other 'errors' of mortal mind that have at present a 'claim' on him will disappear. Nothing can him will disappear. Nothing can harm the man who 'holds the right thought,' i.e. denies the reality of evil. How complete is the boon offered by C.S. may be judged by these words from Science and Health with Key to the Scriptures, which are to be found over a door in one of the C.S. churches in London. 'Divine Love always has met and always will meet every human need.'

every human need. This is no place to examine the evidence adduced by the Christian Scientist in proof of his claim that Divine Science' still heals the sick in the same way and by the same principle as did Christ and His disciples. The curious may attend the Wednesday evening services of the Science Church and hear the oral testimonies of those who expect heist testimonies of those who express their gratitude for deliverance from many forms of mortal ills, deliverance which they attribute to C. S. Others may read of similar cures in the last hundred pages of Science and Health, etc. (chapter entitled 'Fruitage'). has enabled the sect so to thrive? In the fundamental propositions of C. S. are summarised in the following self-evident propositions: '1. God is self-evident propositions: '1. God is All in all. 2. God is good. Good is challenge of C. S. to orthodox theo-Mind. 3. God, Spirit, being all, nothing is matter. 4. Life, God, omnipotent Good, deny death, evil, sin, disease.' The syllogism is, of made a serious study of the question.

Mark Twain (like most humourists. a; the Houses of Parliament (1866). the most mercenary motives. He dreads what he regards the inevitable growth of the cult, fearing that it will stiffe intellectual freedom, but he bears testimony to its beneficient activities in the following remarkable activities in the following terms above passages: 'Remember its (C. S.'s) principal great offer: to rid the Race of pain and disease. Can it do so? In large measure, yes. How much of pain and disease in the world is created by the imagination of the sufferers, and then kept alive by those same imaginations? Four-fifths? Not anything short of that, I should Can C. S. banish that fourthink. I think so. Can any other (organised) force do it? None that I know of ' (page 53). In the meantime Mark Twain thinks that the Scientist would kill off a good many patients. But,' he continues (on page 268), there is a mightier benefaction than the healing of the body, and that is the healing of the spirit—which is C.S.'s other claim. So far as I know, so far as I can find out, it makes it good. Personally I have not known a Scientist who did not seem screne, contented, unharassed. I have not found an outsider whose observation of Scientists furnished him a view that differed from my own.' Surely

no Balaam called in to curse ever departed leaving a heartier blessing. Consult The Truth and Error of Christian Science by M. Carta Sturge, 1903; Christian Science by Mark Twain; Religion and Medicine by Rev. Dr. McComb and Dr. Worcester Chrosen Pauly, Magnesier, and Chris.

(Garden City Press, Letchworth).

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Christiania, the cap. city and an administrative dist. (amt.) of Norway, area 65 sq. m., built on the S.E. coast, at the head of the C. Fjord, and very beautifully situated among pine woods and hills. There are two railway stations with a good service of trains to all parts of Norway and into Sweden. Electric trams connect the city and the suburbs; the roads are good and the easy trarelling has London. Its industrial important traffic. The town is nearly all modern, fisheries rather than on the one of the oldest buildings being the Akershus Fortress, now a prison, (1990) 14,701.

profoundly earnest thinker), in his where the archives of the nation are book already referred to subjects Mrs. kept, the university founded in 1811, Eddy on many grounds to a very by Frederick VI. of Denmark, which severe criticism attributing to her has 1400 students attached to it, with a fine library containing 85,000 vols., also a numismatic collection and a splendid collection of Scandinavian antiquities; and possesses botanical gardens and an observatory. The royal palace is a modern building completed in 1848. The cathedral of Our Saviour is in the principal street, Karl-Johans-gade, close to the Parlia-ment House. North of the university is the museum of art containing a fine collection of ancient and modern painting and sculpture. The His-torical Museum attached to the Art Museum contains a good collection of northern antiquities; amongst these are the remains of two Viking ships excavated in the neighbourhood from burial places of Viking chiefs. One is the Gokstad ship belonging to the 11th century in fairly good preserva-tion. The National Theatre, close to Parliament House, possesses statues of Ihsen and of Björnson. The chief industries of the city are fron foundries, weaving and spinning paper mills, a large tobacco factory. nail factories, sail making, saw mills, matches, etc. The city of C. was de-signed and laid out by Christian IV. in 1624. The suburbs of C. are rapidly growing; they contain some interesting buildings, among others an old palace, once episcopal, where James VI. of Scotland was betrothed to Anne of Denmark, 1589, and a collection of buildings brought from all parts of Norway and re-receted as interesting examples of timber work. Rev. Dr. McComb and Dr. Worcester The harbour is ice-bound from three (Kegan Paul); Mesmerism and Christo four months in the winter, but the tian Science by F. Podmore; Mississipping traffic, which is extensive, cellaneous Writings by M. B. G. Eddy; is compelled to do its business lower down the fjord at Drobak. (1910) 242,000.

Christiansand, a seaport on the S. coast of Norway. Situated on a fjord of Skagerrack, 175 m. S.W. of Christiania by sea, its scenery is still very picturesque, although the wooden houses have, since the fire of 1892, been replaced by brick. It is connected by the Saetersdal Railway with Byglandsfiord (48 m. away), and is served by all the steamers which run between Christiania and Hamburg, Hull, Grangemouth, and London. Its industrial importance London. Its industrial importance rests on the salmon and mackerel fisheries rather than on the wood-

formerly a royal palace, and the Christiansborg, a tn. in the British Akers church built in the 11th cen- Colony of Gold Coast on W. coast of tury but restored in 1860. Among Africa, situated to the E. of Accra. the principal public buildings are Christiansfeld, a tn. in the N. of

Christianstad, or Kristianstad, the fortified capital of the southern prov. of Christianstad, Sweden. It is 10,700.

Christiansted, or Bassin, a tn. in St. Croix, cap. of Danish W. Indies. It has a good harbour, and exports sugar, molasses, and rum. Seat of the governor-general. Pop. 8000.

covernor-general. Pop. 8000.

Christie, Alexander (1807-60), a and was second wrangler. In 1806 he Scottish painter. He was born in was made third mathematical assist-Ediaburgh, and studied painting and at Woolwich Military Academy, under Sir William Allan. He was and in 1838 became professor of made director of the ornamental articles for the Royal Society on the 1845, and an associate of the Royal articles for the Royal Society on the 1845. His best known raps on the magnetic needle, and also on the Great Plague, and he also the Great Plague, and he also Christie, William Dougal (1816-74), Illustrated the Abbotsford edition of bay. From 1642-7 he stood as M.P. Scott's Bride of Lammermoor.

Christie, James Elder (b. 1847), an artist of the Glasgow school. He was born in Fifeshire, Scotland, and studied at the Paisley Art School and also at the Royal Academy. In 1874 he journeyed to London, and in 1877 won a gold medal at the Royal Academy for historical painting. His

Christie, James, the Elder (1730-1803), an auctioneer of London. Dec. 5, 1768, is the date of his first sale, and the exhibitions of the Royal

works, among them are: An Inquiry into the Antient Greek Game (i.e. chess), 1801: Elruscan Vases, 1805; Idolairy, the Worship of the Elements, 1814: and Greek Vases, 1805 1814; and Greek Vases, 1825.

Christie, Richard Copley (1830-1901), an English scholar and biblio-phile, born at Lenton in Nottinghamshire. He came under the influence of Mark Pattison at Oxford, and afterwards became his most intimate Blyth sale of mezzotint egravings friend. In 1854 he became professor in 1901, a first state of the Duches of history and political economy at of Rutland, by Valentine Green after

Schleswiz-Holstein, which is a mari- Owens College, Manchester, and in time province in N.W. of Prussia. 1857 became a barrister at Lincoln's Inn. He was also chairman and an administrative trustee of Sir J. prov. of Christianstad. Sweden. It is Whitworth's works. He wrote several situated near the Baltic (14 m. away), books, the most important being on the R. Helge, 265 m. S.W. of Elienne Dolet, the Martyr of the Stockholm. It is noted for its fine Renassance, 1899; and TheOld Church church, and manufactures linen and and School Libraries of Lancashire, woollen goods besides gloves. Pop. 1855. He also edited a number of books. books for the Chetham Society.

Christie, Samuel Hunter (1784-1865), an English mathematician. He articles for the Royal Society on the Royal Heroster of the Royal Society on the Royal Societ

bay. From 1642-7 he stood as M.P. for Weymouth. He was consulgeneral to the Argentine Republic in 1854, and to Brazil in 1859. He retired in 1863. He wrote the Biography of the First Earl of

Shaflesbury. Christie's, a world art - famed auction room in London. The full title of the firm is Christie, Manson, and Wood, of King Street, London. It is so celebrated that Mr. W. Academy for historical painting. His best known pictures are: 'Pied Piper title of the firm is Christie, Manson, of Hamelin,' 1881; 'Blind Grannie,' and Wood, of King Street, London. 1856; 'The Four Maries,' 1889; It is so celebrated that Mr. W. 'Hallowe'en,' 1892; 'Bonnie Kil. Roberts has thought fit to write the meny,' 1900; and 'Cupid's Bower,' story of the house at great length in a book entitled Memorials of Christie's, published 1897. The most Christie's, published 1897. The most celebrated sale that ever took place there was that of the Hamilton Palace collection in 1882. It lasted for separate and the sale of the Academy used to be held on his for seventeen days, and the amount premises in Pall Mall until 1779. He of money realised was £397,562. All subsequently moved next door to along the history of this house there Gainsborough at Schomburg House, has been a succession of interesting Gainsborough at Schomburg House. has been a succession of interesting Christie, James, the Younger (1773- sales. There was the Bernal collection 1831), an anctioneer and an anti-in 1855, with a result of £76,954; the quary. He carried on the business of Bicknell pictures in 1863, with his father, and moved to the present premises, at 8 King Street, St. James's 1876-8 with £150,000; the Fountaine Square, Loudon, in 1821. The full collection in 1884 with £96,200. In title of the firm is now Christie, 1892 the Dudley collection of minety-Manson, and Wood. C. wrote several works, among them are: An Inquiry 1892 there was the Magniac collection of minety-works, among them are: An Inquiry 1892 there was the Magniac collection. of works of art which brought in £103,040. Sir Julian Goldsmid's pictures, furniture, and china in 1896 resulted in £101,727. Sir John Pender's pictures sold in 1897 brought in £81,913; Sir T. G. Carmichael's works of art in 1902 realised £49,273; and the Huth collection of pictures in 1905 realised £50,452. At the

The Duke of Cambridge's pictures, jewels, etc., realised £89,734 in 1904; the Orrock collection of pictures the same year fetched £65,946; and Lord Tweedmouth's collection in June 1905 brought in £49,548. In May 1905 brought in £49,548. 1905, 15,000 guineas was paid for a reputed Italian 16th century biberon in rock crystal. The value of Turner in rock crystal. The value of Turner pictures has much increased during recent years, as in 1906 his 'Rape of Europa' realised 6400 guineas, while in 1909 his 'Mortlake Terrace' realised 12,600 guineas. This is about the highest price ever paid for a landscape in England. The jewels of Mrs. Lewis Hill were sold in 1907, and fetched nearly £95,000, while 1650 guineas was paid for Sir Luke Filder's 'Venetian Flower Girl' in Filder's 'Venetian Flower Girl' in her collection. This is the largest price ever paid for a picture by a

Christina

living artist. (1632 - 59), Queen Christina Sweden, only daughter of Gustavus Adolphus and Maria Eleonora of Brandenburg, born 1626. Her father died in her sixth year. During her minority the chancellor, Axel Oxenstiern, directed the regency, and in-structed her in politics. Johannes Matthias educated her more as a boy than a girl, and every one held the highest opinions of her understand-ing and courage. In 1644 she assumed the sceptre, and impressed every one with her cleverness and good sense. Unfortunately she allowed her pride to rule her judgment, and showed herself so capricious and reckless that the country became anxious. Her treatment of the chancellor was unpardonable, and in her efforts to thwart him and his policy, she caused considerable harm and diminished materially the gains that Sweden should have obtained from the Thirty Years' War. She founded a national school of literature, and encouraged science and learning with great energy. She collected men of learning about her, but allowed her admiration of them to become too extravagant; thus at the death of Descartes, the French philosopher, in 1650, she wished him to be buried at the feet of the Swedish kings and to build a magnificent mausoleum to his memory, which, however, was not permitted. She refused to marry, and the persistent importunities of the Senate, who were anxious about the succession to the throne, caused her to escape the difficulty by appointing Charles Gustavus, her cousin, as her successor. She became more reckless

Sir Joshua Reynolds, realised the extraordinary price of 1000 guineas. imagination, that a queen in the The Duke of Cambridge's pictures, prime of her life should voluntarily give up her throne, so a great ceremony took place at the castle of Upsala. She retired from Sweden, dressed as a man, and at Innsbruck she adopted the Catholic faith, having always held the Protestant religion in contempt. In 1655, she entered Rome, again dressed as a man, and astonished the people by her extraordinary behaviour. The rest of her life was a series of adventures and scandals. She twice returned to Sweden in the vain hope of being received as queen again. She died in Rome in 1684, quite poor and neglected. She is accused of ordering the assassination of Monaldischi, her major-domo, in 1657. Her valuable library of MSS. was presented to the Vatican by Pope Alexander VIII. in contempt. In 1655, she entered Vatican by Pope Alexander VIII. See Lives by F. W. Bain, 1890; J. A.

Taylor, 1909. Christine de Pisan (1364 - c. 1430). a French poet of Italian parentage. She married the secretary of Charles V. of France, her father being his astrologer. On the death of her husband in 1389, she had recourse to writing as a means of support for herself and three children. She refused invitations from Henry IV. of England and Visconti of Milan who offered her a home at their courts; for she already enjoyed the patronage of Charles VI. and the dukes of Berry of Charles VI. and the dukes of Berry and Burgundy. Her Le Livre des faits et bonnes mæurs du sayge roi Charles (1405) gives an interesting contemporary picture of Charles V. and his court, whilst in her Livres des trois vertus (1407) will be found a unique description of the domestic life of the time. In La Vision (1405) she telle her own story, and her La she tells her own story, and her La Cité des dames (1407) contains a valuable series of contemporary portraits. She was versed in the Latin poets, and assumed the championship of her sex in Epitre au dieu d'amour

of her sex in Epure au dieu d'amour (1399), as also in Dit de la rose (1402). Christinehamn, a tn. on the N.E. shore of Lake Wener, 25 m. E. of Karlstad in Wermland, Sweden. Christison, Sir Robert (1797-1882), a Scottish physician and toxicologist.

graduated at Edinburgh and studied toxicology in Paris under the famous Orfila. From 1822-32 he held the chair of medical jurisprudence in Edinburgh, and from 1829, when he published his Treatise on Poisons, still a standard work, and was appointed medical officer to the crown he frequently gave professional evidence in notorious criminal cases. and wasteful, and unwise in her In 1832 he was promoted to the proforeign policy. In 1654, she was perfessorship of medicine and therasuaded to abdicate in favour of her peutics, and in 1848 became physician to the queen. C. wrote also on the into Christian usage. The lighting of

pathology of the kidneys (1839). Christlieb, Theodor (1833-89), German theologian, was a native of Birkenfeld, Würtemberg. He gave up his ministry at the German Protestant Church in Islington, London, in order to take charge of a parish in Friedrichshafen by Lake Constance. Finally in 1868 he accepted a professorship at Bonn. Modern Doubt and Christian Belief (1868 in the original) is the most widely read of his numerous writings.

Christmas (Cristes masse, the mass of Christ), the season in which the birth of Jesus is commemorated, the central point of the celebrations being C. Day, the supposed actual anniversary of the nativity of Christ, versary of the nativity of Christ, which is generally celebrated in Europe on Dec. 25. The beginning of the celebration of C. as a Christian the exactly dated. anniversary cannot be exactly dated. Though some references are made to it as flourishing in the time of Telesphorus (A.D. 138-161) these are probably spurious, and the first certain mention of the festival is in the reign of the Emperor Commodus (A.D. 180-192); it is also spoken of in the 3rd century by Clement of Alexandria. Diocletian, learning that a number of Christians were gathered together in a certain building celebrating the anniversary of the founder of their religion, caused the church to be ignited, and all the worshippers perished in the flames. The early church had no fixed time to celebrate C.; by some branches it was observed on May, by some in January, and by others concurrently with Epiphany. It is, however, certain that the time now fixed could not by any possibility have been the period of Jesus' birth, as December is the rainy season in Judes. in Judea. The choice of this season was probably due to the general re-cognition that the winter solstice was the turning point of the year; all things seem to prepare then for a fresh period of life and activity after the winter sleep of death. Such a belief was general among all nations; the one which especially influenced the Christian Church was probably the Roman festival of the winter solstice, celebrated on Dec. 25 (Dies Natalis Solis Invicti). The Celtic and Germanic tribes held the season of C. in veneration from the earliest times, and the Norsemen believed that personal evidence could be obtained of the existence and work of their deities at that time, as they were supposed to be present and active on earth from Dec. 25 to Jan. 6. Many other ancient beliefs and customs anent this period have been handed

the Yule log, a custom once widely prevalent but now fallen into desuetude, is an inheritance from Lithuanic mythological lore. The practice of decorating churches is pagan in its origin, and the mistletoe so widely used for that purpose was the sacred plant of the Druids. The custom of presenting friends with gifts at C. dates back to the time of the ancient Romans. In Scotland, in the 15th century, the Yule celebrations lasted from Dec. 18 to Jan. 7. The latter date was termed Uh-halie Day, and within the period of the celebrations Yule Girth ' was proclaimed over all the country, and the worst of miscreants enjoyed sanctuary, as no court had the right to punish them. The 'Up-hellya' of the Shetland Isles is a relic of this ancient custom. was, however, the aim of the Christian church to ennoble and lift above their heathen associations all the customs that survived from bygone ages, and with this end their noble liturgy was framed, and many dramatic repre-sentations of the birth and early events in the life of Christ were instituted. Hence the so-called manger-songs, C. carols, special dishes for C., etc. During the Middle Ages and later, the various customs which were practised at C. time, and the legends associated therewith, were exceedingly numerous; most of them have now become obsolete, though the writings of Dickens revived the interest in them for a short time. There are several distinctive features still associated with C. The C. tree. a young spruce tree, still survives it dates back to the Roman saturnalia, as is proved by Virgil's lines 'Oscilla ex alta suspendent mollia pinu (Georgics, ii. 389). It was introduced into England from Germany in the reign of Queen Victoria. Father C., or Santa Claus, who is supposed to come down the chimney and place gifts in the children's stockings that are suspended by the fireplace, has a parallel in every European country. He is identified with St. Nicholas (the American name), Robin Goodfellow. Knecht Ruprecht, and the French Bonhomme Noël. St. Nicholas Day is properly on Dec. 6. C. as a social festival is undoubtedly observed with much less whole-heartedness than formerly. The festivities of the season were formerly kept up uninterruptedly for over a week; now C. Day and Boxing Day only are general Day and Boxing Day only are general holidays. The custom of giving gratuities to servants, etc., at C. is also Roman in its origin. The Romans named such gifts 'strenæ,' and they were called 'boxes' from down to our times, and have crept the fact that boxes were hung up in

church at C. time by the priests for offerings to be dropped therein for the poor and needy of the parish. These boxes were opened on the day after C. Day and their contents distributed; hence the day was known as 'boxing-day,' and by a common metonymy the gifts themselves came to be known as C. boxes. Public to be known as C. boxes. Public servants formerly received C. boxes, but this was discontinued about 1840. and now postmen, municipal servants, and tradespeople's employees are the only people to solicit such gifts. C. cards, now so universally used, were instituted in 1846, and the industry Much adhas grown enormously. From a religious point of view great importance is naturally attached to the commemoration of the birth of the founder of the Christian religion. The day is celebrated by special services in the Roman Catholic Church, and the priest is allowed to celebrate three masses on the same day, the first at midnight, the second at dawn, and third in the morning. In the Anglican Church, there is a special service, special psalms are sung, and the Athanasian Creed is recited. Most of the Nonconformist bodies also celebrate the day by special services, etc. In Scotland, C. is not kept as a special holiday, New Year's Day taking its place; the Presbyterian Church, therefore, has no special services for C. Day. Hansel Monday, the first Monday of the New Year, is the equivalent of Boxing Day in Scotland, and in the more northerly parts of England. For further information about C. customs, etc., see Christmas and its Associations, by W. F. Dawson, 1901; Brand's Popular Antiquities, 1870; and A. Tille's Yule and Christmas, 1899. Christmas Island: An island.

never more than 12 m. long and 9 m. broad in the eastern part of the Indian Ocean, 190 m. S. of Java. It is a British possession under the govern-ment of the Straits Settlement. It is the deposits of phosphate of lime, the result of the continuous action of the dung of sea-fowl on the chalk below, which give the island its one commercial value. It is the top of a submerged mountain, some 15,000 ft. high, of which 1200 ft. only rise above

been inhabited before Dampier visited it in 1868. 2. An island (with a 90 m. circuit) in Polynesia, Pacific Ocean, lies a little above the equator, S. of Honolulu. Discovered by Cook in 1777, it was annexed by Great Britain in 1898 with a view to laying the Pacific cable, of which Fanning Island (to the N.W.) is a station. The exports are guano and mother-of-pearl. Pop. 300.

Christmas Rose, or Helleborus niger also known as the Black Hellebore, is a species of Ranunculaceæ which is a native of Europe and flowers in the winter. The leaves are evergreen, the rhizome is black-hence the second has grown enormously. Much ad rhizome is black—hence the second vance has been made in the product popular name—and the flower has tion of cards, and some really artistic at first a white or reddish-tinged productions can now be obtained. The Roman gladiatorial games at fertilisation has taken place. Despite seasons of rejoicing have a modern the fact that the plant is ranuparallel in football matches, which culaceous, the flower really bears vast multitudes attend at C. time. considerable resemblance to a single rose, for there are five petaloid sepals and the stamens are numerous. Formerly the hellebore was considered to be of medical value in cases of mental derangement, but it is little used nowadays; it contains a property which renders it an acrid poison.

Christophe, Henri (1767-1820), a negro king of Haiti. Originally a negro king of hadd. Originally a slave of Grenada, he became a chief under Dessalines, Emperor of Haiti. After the latter's murder he established himself as king of the North. Civil war followed, but he was declared king in 1810. His cruelty clared king in 1810. His cruelty caused a revolt, and to escape im-

prisonment he shot himself.
Christopher I. (1252-59), King of Denmark, succeeded his brother, Abel. He was obliged to make over the rich duchy of Schleswig to his nephew, Valdemar, thereby beginning the regrettable dissensions over the crown lands. When C. imprisoned his primate, Jakob Erlandsen, like a common felon, because of his devotion to the pope and contempt for his own authority, he was excommunicated, but sudden death (probably by poison) put an abrupt end to the dispute.

Christopher II. (1319-32), King of Denmark, made repeated attempts to secure the duchy of S. Jutland (Schleswig), which had fallen to a minor, Valdemar V. But the latter's guardian expelled him finally. However, when C. secured the recognition of Valdemar as heir to the Danish throne, he received the duchy, after promising that it should never be incorporated with Denmark. During the surface of the sea. At Flying Fish incorporated with Denmark. During Cove there is a settlement of 250 his reign the royal prerogative was people, consisting of Sikhs, Chinese, considerably curtailed, and the privibility and Europeans. It has the leges of the aristocratic party streng-curious distinction of never having thened. The virtual dissolution of the

kingdom at his death into the Scanian | Inigo provinces, Schleswig, Eastern Denmark, and Jutland and Fünen, clearly demonstrates the weakness of his rule.

Christopher III. (1439-48), King of Norway and Sweden, besides Den-mark. C. owed his accession to the Rigsraad or Senate, not to the people. In his reign the peasants were downtrodden, and in Jutland, after their rising of 1441, were reduced almost to the condition of seridom.

Christopher (1550-68), Duke Würtemberg, son of Duke Ulrich I., died 1605. He completed the work of died 1605. his father by converting his subjects to the reformed Protestant faith and establishing the Lutheran church. He introduced a system of church government, part of which still endures. He was a recognised protector of the Protestants throughout the

religious wars of the period. Christopher, St. (d. A.D. 250), the patron of ferrymen, was a great preacher of Syria, who converted, it is said, 48,000 people to Christianity, after excruciating

during the persecutions of A.: His world-wide renown is legend rather than to fact. representation of him in art with the infant Christ upon his shoulder is founded on a beautiful story, of which the following is a bare epitome. A little child once asked Christopher, who was of imposing stature, to carry him over a bridgeless stream. Staggering across, the bearer cried out against the strange heaviness of his load, but the boy replied: 'Marvel not, for with me hast thou borne the

sins of the whole world.'

Christopoulos, Athanasius (1772 -1847), a Greek poet, studied at Buda and Padua, and from 1811 assisted Prince Caradja, hospodar of Moldavia and Walachia, in making a code of laws for his country. Caradja fell, he lived in retirement and composed his lyrics and drinking songs which earned him a wide popu-Besides translating Homer and Herodotus into modern Greek, he wrote a political tragedy, Politika Parallela, on different forms of government.

Christ's College, a college of Cambridge University, England, founded in 1505 by Lady Margaret Beaufort, mother of Henry VII. On the site of C. C., previous to 1505, had stood 'God's House,' founded by William England in 1/20 This was only a Byngham in 1439. This was only a small college or hall, and Lady Margaret's endowment provided for

Jones, and is a very fine example of the style. The garden is especially beautiful, having suffered least of all the college gardens during rebuilding or enlarging. The rooms once occupied by the foundress have been preserved with very little alteration. John Milton was a scholar here, and a mulberry tree said to have been planted by him still lives and bears fruit. Among C.'s famous alumni are Bishop Latimer, John Leland, the antiquary, and Charles Darwin. college is closely connected by exhibitions with schools in the N. of England.

Christ's Hospital (the Blue-coat School) was founded in 1550 by Edward VI. The original buildings were those of the monastery of the Grey Friars in Newgate Street, London. King Edward VI. gave a grant of money, and various charitable persons assisted, and it became richly endowed. It was at first devoted to orphans, and in 1553 was providing home and education for 400 children. The mayor and citizens of London before he himself was finally mar- were nominated governors in its a Guy, the founder of

endowed the school r. In 1677 parish ar. The children and foundlings' were excluded and only children of the freemen of the city were admitted. Several new regulations have been added from time to time, and children presented by governors are admitted to the foundation, also sons of naval officers. The dress of the boys has scarcely differed in style since 1550; they wear a long blue coat and kneebreeches with yellow stockings and white neck bands, the only difference being that the yellow petticoat and flat blue cap have been discarded, and no covering for the head is worn. From time to time alterations were made in the buildings; in 1692 Sir Christopher Wren built the S. front, which is now destroyed. In 1902, the school was removed to new buildings at Horsham in Sussex, designed by Sir Aston Webb, and Ingress Bell: the building is on an entirely new plan for public schools, accommodating 700 boarders and 600 day scholars. The old buildings were destroyed, except a portion corporated in the enlargement St. Bartholomew's Hospital. The boys still retain the ancient name Grecians and deputy Grecians for the two highest classes. The main the school is divided into school and the mathematical school, corresponding to the usual classical and modern sides. There are many a much larger foundation. Part of university scholarships and exhibite building was refaced in the 17th tions, and large sums are spent century. The Fellows' building in the annually in apprenticeship for both second count was activated. second court was partially built by boys and girls. Many distinguished

chrome orange.

men have been pupils at C. H., among these were Charles Lamb, Samuel Coleridge, Camden, Stilling-fleet, and Leigh Hunt. The girls school, also originally in school, also originally in Newgate Street, was removed in 1798 to Hertford, and now takes 350 boarders and 400 day scholars. Lamb's essay on C. H. gives a picture of the school in its old days.

Christ's Thorn, or Paliurus aculeatus, a species of Rhamnacee which flourishes in S. Europe and in W. Asia. The shrub is common in Palestine, and is said to have provided the crown of Christ; the thorns are formed from the stipules. The name is applied for a similar reason to other plants, especially to Zizyphus Spina-Christi, another species of the same order with stipular thorns, related to plants which produce the fruit known

as the jujube.
Christy, Henry (1810-65), English ethnologist, was a director of the London Joint-Stock Bank, but from 1851, when his interest in ethnologist. logical questions was extraordinarily stimulated at the Great Exhibition. he freely gave his whole life to travel and research. From 1858 till his death he explored the caves in the death he explored the caves in one valley of the Vézère in Southern France, trying to deduce from the flint implements, etc., he found the antiquity of man in Europe. He published the results of his investigations, in the control of the control of the cave that the control of the cave that the c and at his death bequeathed to the nation his unique archæological collection, made in Scandinavia, Denmark, British Columbia, and Mexico, besides in France.

Chromatic Scale, in music, a series of semi-tones written with sharps ascending and flats descending, not involving a change of key, and

arranged with accidentals.

Chromatic Thermometer, an apparatus for measuring temperature by observing the colour of the light radiated from a heated body. A heated body changes in colour from red to white as its temperature rises, and a comparison of the colour with a standard tint gives an indication of the temperature.

Chromatophores, pigmented cells in the surface of plants and animals, whose function appears to be re-stricted to the production of colour for appearance sake. They are de-veloped out of young cells which may become leucoplasts or starch-formers, chloroplasts, or chlorophyll cells with functions, or may nutritive specialised to the production of pigment only.

Chromatype, a photograph on paper sensitised by salts of chromium.

Chrome Yellow (chromate of lead,

dyeing and as a pigment. It is found as a mineral in Siberia, in the Urals, Brazil, and the Philippines, under the name of crocoisite. It may be prepared by precipitating a solution of a lead salt with potassium dichromate. Different shades may be obtained by mixing with lead sulphate, which gives a lighter shade, or with chrome red, which gives numerous shades of

Chromic Acid (H.CrO.) is important because of its salts, the chromates. It is liberated on adding to a concentrated solution of potassium anhydrochromate a sufficient excess of sulphuric acid. The acid, when the solution is concentrated, loses water and deposits deep red crystals of chromic anhydride or chromium tri-oxide. The excess of sulphuric acid oxhue. The excess of surphine and potassium sulphate is washed out with nitric acid, which is then driven off by gentle heat. It is doubtful whether C. A. has really been obtained, but red crystals have been obtained by cooling a hot saturated solution of the trioxide which have been regarded as the acid. With sulphuric acid, C. A. acts as a powerful oxidising agent, and as such is much used in organic chemistry and electric for dissolving intercellular tissue. The acid is used for dyeing in red and brown colours. C. A., however, is not so important as the chromates. In their production the native chrometer are the chromates. iron-ore, Fc(CrO₂)₂, is used. This is heated in the powder form with lime and potassium carbonate in a reverberatory furnace, where oxidisation takes place and potassium and calcium chromates are formed together with ferric oxide. This is treated with water, and the chromates thus extracted. For the production of the bichromate of potash, or, more properly, potassium dichromate (K₂Cr₂O₂), which is used as a pigment, the solution of chromates is dichromate treated with sulphuric acid, and the potassium sulphate formed produces, by means of double decomposition, the potassium chromate and precipitates calcium sulphate. To convert the chromate into dichromate, a certain quantity of sulphuric acid is added to the solution. The bichromate forms large red prisms, and in solution gives a very poisonous acid solution. Lead chromate (PDC70,) is the 'chrome yellow' of the painter, and is of a bright yellow colour. It is found native in the mineral 'crossiste' and war and is of a bright yellow colour. and may also be prepared by coisite, precipitation from the chromate or dichromate by a lead salt.

Chromite, a mineral which forms the chief source of chromium and its PbCrO,), a colouring material used in compounds. It consists of chromlum, fron, and oxygen, FeO.Cr.O₃, and is the C. and the prominences issuing known as chrome-iron-ore, chromic from it, and it has been found that from, and chrome-iron-stone. It the prominences are associated with forms octahedral crystals, but is the sun-spots, or faculæ, which reach usually found in granular masses; its the edge of the sun's disc, so that hardness is 5½, specific gravity 4·5, they are often the accompaniment of and it is black or dark-brown in violent eruptions in the interior colour. It is found in ultra-basic portion of the sun. igneous rocks, and is mined in Cali-fornia, New Zealand, Turkey, the Urals, and in the Shetland Islands.

Chromium (symbol Cr: atomic weight 52.1), a hard steel-grey metal belonging to the same chemical group as molybdenum, tungsten, and uranium. It is not found free in nature, but in chrome iron ore (Cr.O.FeO), crocoisite, and chrome ochre it is found very frequently. Many green stones, such as emerald and serpentine, owe their colour to its presence. The general methods of production are the reduction of the oxide by carbon in the electric furnace or its replacement by aluminium. Its chief industrial use is the addition of very small quantities to steel, which it renders hard and tenacious. The im-

portant salts are the chromates. Chromosphere, the name given to the shell of luminous gas which surrounds the photosphere of the sun. When observed in its usual condition by the eye or the telescope, the sun is seen as a highly luminous disc with a sharp edge: this is called the photosphere. When, however, the eye cannot see the bright photosphere, as in an eclipse of the sun, its great luminosity does not mask the lesser luminosity of the C., which can then be clearly seen or photographed. The be clearly seen or photographed. The edge of the C. is, however, not regular, for there shoot out from it gigantic flame-like masses of luminous material called 'prominences,' which testify to the greatly agitated state of With only the sun's surroundings. the telescope, eye, and camera not much more information can be gained with regard to this peculiar atmosphere, but from the kinetic theory of gases we might deduce that the great temperature of the sun would give the molecules of its gaseous con-stituents enormous velocities which would enable them to go a long way from the sun before they were brought back by the gravitational force. The most fruitful method of study, however, is by means of the spectroscope, which has been applied to the pur-pose very successfully by Lockyer, Hale, Deslandres, and others. By its means the C. was seen to be com-

portion of the sun.
Chronicle (Gk. xρόνος, time) denotes a history in which facts are recorded according to the sequence of time. The oldest C. in English literature is the Anglo-Saxon Chronicle, part of which is, in fact, 'the oldest historical prose in any Teutonic language.' The Chronicle exists in Sexual different manuscripts, which seven different manuscripts, which are generally designated by the first seven letters of the alphabet. It is probable that the C. in part repre-sents the work of King Alfred, and that much of it was written under his superintendence. The A. or Parker MS. is the best authority for the earlier periods. The work of chroearlier periods. The work of chronicling contemporary history was probably carried out by monks. Winchester, then the most important place in Wessex, being at first the centre from which the work was done. The events of Alfred's reign are written in a spirited style, but the account of events towards the end of the 10th century, when the work of chronicling was moved to Canter-bury, is meagre. The A MS. carries the history down to the year 1071. The G MS. is fragmentary and a transcript of A. The C MS. was written from Abingdon, and extended to the conquest, B extending only to 977, and differing very little from C. The E or Land MS. is of great interest. It was written probably in Peterborough and is full of patriotic spirit. It is the latest of all the versions, the last entries dating from 1154. In it is to be found the celebrated passage describ-ing the sufferings of the country from the self-seeking, avaricious barons of Stephen's reign. For the most part the Chronicle is bare and scrappy. the briefest notices being given of deaths, coronations, the founding of monasteries, and the like. There are. however, some passages such as that relating to the tragic death of King Cynewulf in 755, which are written in a vivid, graphic style, and, occasionally, pieces of verse are inserted, of which the poem celebrating the battle of Brunanburgh is pre-eminently the finest. The Chronicle was printed as early as 1643, and has since been frequently reprinted and transposed of many elements in the gaseous states, particularly hydrogen, helium, are: Two of the Saxon Chronicles and calcium, a line spectrum being Parallel (Oxford, 1865), edited, with observed in place of the continuous an introduction by Prof. Earle; respectrum of the sun. It has been posiedited, with appendices and glossary, sible to photograph any portion of by Charles Plummer (Clarendon

Press, 1892 and 1899); The Anglo-author. Many details are given as Saxon Chronicle, edited, with a trans-to divine feasts, and offerings and lation, by Benjamin Thorpe (2 vols.), 1861. Consult The Cambridge History of English Literature, vol. i., 1907. Other Cs. of interest to the student of English literature may be briefly noticed. The New Chronicles of England and France, by Robert Fabyan (d. 1513), was published in 1516, and (a. 1315), was published in 13th, and related the history of England from the arrival of Brutus to the battle of Bosworth (1485). The standard edition is that of Sir Henry Ellis (1811). Raphael Hollingeshed's Cronycle, published in two folio volumes in 1578, is of supreme importance from the fact that Shakeportance from the fact that Shake speare owed to it so much of his material for most of his historical plays, as well as for one or two others, such as Cymbeline and King Lear. John Stow (1525-1605) assisted in the continuation of Holinshed's C., and himself wrote a Summary of English Chronicles, 1561. Sir Richard Baker's Chronicle of the Kings of England was written in Fleet Prison, and was published in 1641. Two books of the O.T. are called Cs. and are dealt with O.T. are called Cs., and are dealt with in a separate article.

Chronicles, the First and Second Books of the. The Hebrew name, Dirrai hay-yamim, signifies 'events Divrai hay-yamim, signifies 'events of the days,' whereas the Greek of the Septuagint, ποραλειτόμενε, means 'things passed over.' These two books of the O.T. form one book in the Hebrew Canon, and constitute a history of the Jewish people from the time of Adam up to the return from captivity. Some of the events recorded in the Second Book of Samuel and the Rocks of Vines are been seen the Rocks of Vines are been seen the conditions. and the Books of Kings are here repeated, and the narrative is continued in the books of Ezra and Nehemiah. Nothing is known of the authorship of C., except what can be deduced from internal evidence. It was written by some one who had Levitical leanlngs, and who apparently, from the language and syntax he used, lived about 330 B.c., or even later. It was therefore written at a time when prophecy had become extinct, and when every Hebrew was chiefly interested in Jerusalem, the history of the Temple, and all things that pertained to the theocracy of Zion. The early part of the history is contracted into the form of genealogies (1 Chrol.i.ix.).

services in the temple, which are not mentioned elsewhere. The author refers several times to the 'Book of the Kings of Ierael and Judah,' to a midrash or commentary of the Book of Kings, and to the words of the prophet Jehu, and the vision of Isaiah. Modern scholars do not regard very highly the historical value of C. The most useful commentaries are those by Bertheau and Benzinger. See Driver's introduction to the O.T. and Dr. Curtis in the International Critical Commentary, 1910.

Chrono-Chrome, the name applied by Messrs. Gaumont to their inven-tion, which is the latest application of the study of colour-photography to the cinematograph. The pictures obtained by this process reproduce to the ordinary eye the perfect natural colours of the original sub-jects. With regard to plant and other still-life studies-notably butterflies the pictures which have already been shown in London are marvel-lously beautiful, the varying shades and even the varying effect of light on iridescent surfaces being wonderfully displayed. The result is almost as good when views of processions or seascapes have been shown, although in these, at times, a green edging was distinctly portrayed. The process has only just given practical results, however (Mar. 1913), and this defect, trifling as it is when compared with the artistic and truthful effects which are already possible, will no doubt soon be remedied. C. pictures are produced without the aid of hand-tinting or any colouring by taking three pictures simultaneously through red, green, and blue-violet screen, and then throwing the three pictures in the same manner on to the stage in the same manner on to the stage screen, through similarly coloured screens. All shades of red, violet, and blue, and even a perfect white, are portrayed, although these are the colours which have proved almost impossible of reproduction before. They are described as 'pictures from the palette of the sun,' and the name is really appropriate as far as the is really appropriate as far as the lay mind can judge, although M. Gaumont himself says that improvements are possible.

Chronograms (from Gk. χρόνος, ne. and γράμμα, a letter) were the form of genealogies (1 Chrol..i.x.). There are numerous omissions in the records of the reigns of David and Solomon (1 Chron. x.-2 Chron. ix.), the late Roman empire and afteronly those things being mentioned which serve to prove God's goodness to those who obey the divine law, accordingly, the sin of David, the written large to stand out. The revolt of Absalom, the idolatry of reader would be obliged to rearrange Solomon, etc., are omitted, as they the letters thus: Christve DVX: do not serve the purpose of the rego TrIVMphVs. This was stamped

recorded. Strictly speaking, there should be a distinction between the meanings of the words chronoscope and C. The former should apply to instruments which allow the extent of passage of time to be seen by reference to a dial or other indicator, while a C. should possess an apparatus for making permanent records of certain desired periods. A stop-A stopwatch is therefore a chronoscope, and a watch or clock provided with a stylus capable of tracing lines proportionate in length to the corresponding periods of time would become a C. Cs. are usually constructed in the contract of the contr to indicate very short periods with great accuracy, and for this purpose the ordinary clock mechanism is unsuitable, as any error within the period of its escapement can be introduced. duced. Cs. of various forms are used for astronomical purposes, for estima-ting high velocities, for measuring certain physiological phenomena, and even for determining the finish of a horse-race. The essential parts of a C. are a pendulum or other mechanism for indicating solar time, a stylus or recorder which can be applied promptly at the beginning of the period and released at the end, and a moving surface on which the record is made. Instead of a pendulum or clock, actual time may be indicated by the vibration of a tuning-fork, to one of the prongs of which a light stylus is fixed. When the period of the tuning-fork's vibrations has been ascertained by comparison with mean solar time, it is possible to indicate small fractions of a second by the number of vibrations in a period. The moving surface is generally cylindrical in form, and smooth enough to offer little resistance to the stylus. The surface is graduated by lines at right angles to the direction of its motion, and it is obvious that the greater its velocity the more graduations will be covered in a given period and the more possible it will be to ascertain small fractions. The stylus is in most cases applied and to ascertain small fractions. The stylus is in most cases applied and released by breaking or establishing an electrical circuit. In the Bashforth C. for determining the velocity of shot, there are two recorders: one is controlled by an electro-magnet in circuit with a clock, the other forms a circuit with a series of screens placed at known distances apart. When the shot masses through a screen it dis-

on a coin struck by Gustavus broken by the shot, again re-estab-Adolphus in 1632 (MDCXVVVVII.). lished, and so on to the end of the Chronograph, an instrument by series. The length of a second as inwhich the length of a period of time is dicated by the one recorder is repredicated by the one recorder is represented by 18 ins. and the interruptions in the other record, therefore lead to an accurate determination of the time spent by the shot in traversing the distances between the screens. Cs. are also used to indicate the period of transit of a star, to estimate the velocity of sound, and to measure accurately certain muscular move-ments, when the stylus may be moved by the muscle itself. For physiological uses of Cs. see Stirling, Outlines of Practical Physiology.

Chronology (6k. xpóros and λόγος, discourse, account), the science of computing and adjusting time. or periods of time, in order to ascertain the true historical sequence of past events and their exact dates. C. differs from history in that it recounts events purely with regard to their order in time and without taking into account their relation to each other. Time has from the beginning been measured astronomically, according to the revolutions of the sun and moon and to recurring celestial phenomena. The natural divisions of time are the day and night, a larger division being the lunar month. Barbaric races have generally reckoned their time by means of lunar reckoned their time by means of lunar months, without thought of dating events from a fixed epoch. The early civilised races, however, regulated their time from a fixed epoch, each choosing a great event in its national history from which to date all other events, both prior and subsequent to it. The epoch universally adopted in modern times is the birth of Christ, the years before it being marked B.C. the years before it being marked B.C., and those after it A.D. (Anno Domini). This method of dating events was first bractised by Dionysius Exigius about 533 A.D. The first era made use of by the Greeks was that of the Olympiads. The Olympia Games were held every four years, so that an Olympiad was reckoned as a period of four years. The epoch from which the Greeks reckoned time was the victory of Coræbus in the first Olympia Games, held in Ellis, and calculated to have taken place in the year 776 B.C. The Greek historian Timæus, who lived in the reign of Ptolemæus Philadelphus (283-245 B.C.), was the first to reckon by means and those after it A.D. (Anno Domini). B.C.), was the first to reckon by means of Olympiads, and his method was followed by other Greek historians. The Nabonassar era owes its name to the founder of the Babylonian kingshot passes through a screen, it displaces a weight which breaks the dom, and is said to have been used circuit, which is then almost immediately automatically re-established from the time of its origin, Feb. 26, 747 n.c. This era was adopted by through the second screen; it is again Hipparchus and Ptolemy, and was

used by astronomers because its ing of time and to date the events of calculations were based on celestial history. The great objection to the phenomena. The Roman era dated the biomysian or Christian era, from the foundation of the city of is, of course, that it is divided into Rome, which is generally accepted, two parts, which necessarily involves from the computation of Terentius a certain amount of confusion in Varro, as 753 B.C. Verrius Flaccus, reckoning. Furthermore, as the year however, placed it a rear later, immediately preceding the birth of whereas M. Porcius Cato gave it as Christ is called 1 B.C., and the year fabius Pictor as 747 B.C. The years were denoted by the letters A. U. C.. Joseph Justus Scaliger tried to anno urbis condita. 'in the year of obviate these difficulties in 1552 by the founding of the city.' Another, this invention of what is known as common method of reckoning among the Julian period. His period beran Latin historians was by the annual 4713 B.C., so that the year 4714 of the Latin historians was by the annual the Roman to the Christian era if the date is before the birth of Christ the rears of Rome should be subtracted from 754; if the date is after the birth of Christ, 754 should be subtracted from the years of Rome. Other eras of note are the era of Constantinople. dated from the supposed creation of the world, 5508 years and four months era, beginning the Roman empire was by a system known as Indictions, which is a state of the cale and Roman empire was by a system known as Indictions, which is a state of Alexan and Alexan and Alexan and Roman empire was by a system known as Indictions, which is a state of Alexan and Roman empire was by a system known as Indictions, which is a state of Alexan and Roman empire was by a system known as Indictions, which is a state of Alexan and Roman empire was by a system known as Indictions, which is a state of Alexan and Roman empire was by a system known as Indictions, which is a state of Alexan and Roman empire was by a system known as Indictions, which is a state of Alexan and Roman empire was by a system known as Indictions, which is a state of Alexan and Roman empire was by a system known as Indictions, which is a state of Alexan and Roman empire was by a system known as Indictions, which is a state of Alexan and Roman empire was by a system known as Indictions, which is a state of Alexan and Roman empire was by a system known as Indictions, which is a state of Roman empire was by a system known as Indictions, which is a state of Roman empire was by a system known as Indictions, which is a state of the period and Abyssinians); the Mohammedan eras that date after the birth of Carist date after the birth of the find and the read that date after the birth of the prical and the date after the birth of the blook and the perianing and Abyssinians); the Mohammedan are the Diocelian, or the Book and the Book system known as Indictions, which were cycles or periods of fifteen years, beginning with the year 312. Indictions were of three kinds: The Indictions of Constantinople, beginning Sept. 1, 312 A.D.: the Imperial Indiction beginning Sept. 24, 312 Era of Rome Indiction, beginning Sec. 25, 312 A.D.; and the Pontifical or Roman Indiction, beginning Dec. 25, 312 A.D., or Jan. 1, 313 A.D. The method of reckoning from the birth of Christ was first invented, as has been men. Era of Mohammed of reckoning from the orth of Christ was first invented, as has been mentioned above, about 533 A.D. The Dionysian year began on March 25, from the Annunciation. If the date of man's creation on this earth could in different places. When Julius and March 25, when artiblished that

Latin historians was by the annual 4713 B.C., so that the rear 4714 of the consulships. Not infrequently both Julian period corresponded to 1 A.D. the year of the city and the names He also estimated 7980 years in a of the consuls are given. The dates Julian period. According to the according to various eras can easily. Septuagant version of the Bible, the be transferred to each other or to the creation of the world took place Christian era by arithmetical calcu-6000 years before the birth of Christ, lation. For example, to change from and 2250 years before the flood. The the Roman to the Christian era, if the Hebrew version reckons 4000 years 4713 B.C., so that the year 4714 of the Hebrew version reckons 4000 years from the creation to the birth of Christ, and 1655 from the creation to the flood. The Samaritan version, however, allows for an interval of only 1307 years between the creation and mod . -zientists and ' first few the world, Joby years and dolf months, and before the beginning of the Dionysian chapters of Genesis, the creation of or Christian era: the era of Alex- the world cannot be fired with any andria, placing the creation of man definiteness whatever, and must have Aug. 29, 5502 B.C.; the era of taken place at a far earlier period Alexander, counted from the date of than any suggested above. The chief his death, Sept. 1, 323 B.C.; the era eras that date after the birth of Christ his death, Sept. 1, 323 B.C.; the era eras that date after the birth of Christ

thus:

Era of Constantinople Sept. 1, 5508
Era of Alexandria Aur. 29, 5502
Era of Antioch Aur. 29, 5592
Julien Period Jan. 1, 4713
Jewish Mundane Era Oct. 1, 3761
Olympiads July 1, 776
Era of Rome April 24, 753
Era of Nabonassar Feb. 25, 747
Era of Alexander Sept. 1, 322
Julian Year Jan. 1, 45 . Jan. 1, 45 . Jan. 1, 38 A.D. . Sept. 1. 284 . July 16, 622 . June 16, 632 Era of Diocletian Era of Mohammed Era of Persia

or man's creation on this earth could in different places. When Julius would form the most convenient point from which to start the reckoning of a year. This was used in

from the time of the Conquest till 1155. After that date, March 25 was regarded as the beginning of a year in conformity with the continental custom. In 1582 Pope Gregory XIII. reformed the calendar, and introduced what is known as the 'New Style.' During the 16th and early 17th century, the New Style, with Jan. 1 as New Year's day, was adopted by most of the European Powers, including Hell There are the European Powers, including Hell There are the style of the European Powers, including Hell There are the style of the European Powers, including Hell There are the style of the style o cluding Italy, France, Germany, Spain, and Portugal. England, with Russia and Sweden, adhered to the Old Style until 1751, when Lord Chesterfield took the matter up and tried to rouse interest by his con-tributions to the World. 'It was not,' he said,' very honourable for England to remain in a gross and avowed error, especially in such company.' The English calendar was by comparison with the continental. eleven days out, and Chesterfield, in collaboration with Lord Macclesfield, the mathematician, and Bradley, the astronomer, drew up a scheme and passed the motion through the House at the time of the Pelham ministry. The year 1752 was to begin on Jan. 1 calendar met with much ignorant opposition on the part of the public. The scheme was regarded as a wicked concession to Rome, and the popular Opposition election cry was 'Give roder is popularly known from its us back our eleven days.' Consult Scaliger, De Emendatione 'Scaliger, De Carlo D instead of March 25, and in order to

Chronometer, see Horology. Chronometer, in music, see METRO-

NOME.

Chronoscope, an instrument which indicates the length of a short period The term is applied to an apparatus for measuring the period of certain luminous phenomena of which the eye can be no accurate judge, on account of the persistence judge, on account of the persistence of a sensation in the retina. It consists of a rapidly moving mirror, which, owing to its motion along the circumference of a circle, reflects a flash as a luminous are; the length of the arc thus indicates the duration of the flash. Sir Andrew Noble invented a C. which might more accurately. a C. which might more accurately be called a chronograph. A series of plugs is arranged so as to project inside the bore of a gun, each forming part of the primary circuit of

England as the first day of the year an induction coil. The circuit is from the time of the Conquest till broken in each case by the passage of the shot, and the spark passing between the terminals of the secondary produces a spot on the edge of a rapidly rotating disc which is coated with lamp-black. There is a disc to each plug, so that the positions of the spots enable the velocity of the shot to be ascertained. See CHRONOGRAPH.

Chrudim, a tn. of Bohemia, 62 m. S.E. of Prague, situated on the Chrudimke. It is noted for its horse markets, and has manufs. of cloth

markets, and has manus. of closes and sugar. Pop. 13,500.
Chrysalis, or Chrysalid, the term applied to the pupa of an insect, but especially to that of a butterfly or moth. It is essentially the restingstage of the creature's life, when the larva having stored up much food, the perfect insect is built up from the disintegrated tissues. The pupa may

be exposed or within a cocoon. Chrysanthemum (Gk. χρυσός, gold, aνθεμον, flower), a genus of Compositæ, contains about 150 species of varied and beautiful plants which are natives of all countries but Australia. and are generally hardy in Britain. The plants are either herbaceous or shrubby in habit, and the flower-

annual with yellow flowers, and occurs as a weed in fields; C. leucanthemum, as a weed in fields; C. teucanthemum, the ox-eye or dog-daisy, is a well-known meadow plant with white ray florets and yellow disc-florets; C. frutescens, the Paris daisy or marguerite of France, is grown as a garden plant and somewhat resembles C. leucanthemum; C. parthenium, the foverfew, has small flower-heads, and is used as a remedy for slight feyers; C. caringhum, the for slight fevers; C. carinatum, the tricolor daisy, comes from Barbary

pink and white florets. Chrysanthemum, Order of the (Kikkwa Daijasho), was instituted in 1877 by the Emperor Musto Hiti of Japan, and is conferred on members of the royal house and on foreign

and is an annual cultivated in Britain: C. Arcticum is a small species with 636

princes. The badge is conventional in design, with a red sun in the centre, sending forth white and gold rays, separated into four groups by a yellow chrysanthemum with green leaves, the whole hanging from a larger yellow chrysanthemum. There is also a collar, which may be given some time after the badge. Its design consists of yellow chrysanthemums, green leaves, and a wreath of palm.

Chryseis, the daughter of the Greek priest, Chryses. Achilles, by his rapo of C., had called down the wrath of Apollo, who sent a dreadful pestilence in token of his displeasure. When Calchas, the seer, revealed the cause of the god's anger, Achilles, on the demand of Agamemnon, the king, was obliged to restore C. to her father, but insisted on receiving Agamemon's slave, Briseis, in compensation. Homer in his *Hiad* tells the disastrous sequel to the strife which thus arose between the two champions of

the Greeks.

Chryselephantine (Gk. χρυσός and ἐλόμας, ivory), the adjective used to describe the gold and ivory statues of the Greeks, by far the most famous of which were the colossal Zeus at Olympia and Athena in the Parthenon of Pheidias. A development from wooden images where flesh was painted white and drapery gilded, these C. statues were built up on wooden or clay cores, by attaching thin plates of ivory (to represent flesh tints) and gold. The preciousness of the materials amply accounts for the non-survival of any illustration of this art.

Chrysidide, a family of insects, in the series Aymenoptera Tubulifera, consists of near allies of the true wasp which are called popularly ruby-wasp or golden-tailed files. They are brightly - coloured creatures with wings moving so swiftly as to make them invisible, and in habit they are parasite in the nests of bees and wasps. Ch. ignila is a common

British species.

Chrysippus (c. 280-206 B.C.), a Greek philosopher, and one of the leaders of the Stoic school of philosophy, born at Soli in Cilicia. He came to Athens and studied under Cleanthes. His skill in argument and his impartiality and reasonableness earned him the name of the 'Column of the Portico' (Stoa). He saved the doctrines of the Stoics from extinction. He wrote 750 treatises, of which only fragments survive; some of them are preserved in the MSS. found at Herculaneum.

Chrysis, a genus of insects, is typical of or ruby-wasp family.

The badge is conventional lays her eggs in the nest of other with a red sun in the centre, orth white and gold rays, into four groups by a The C. is a brilliantly-coloured and

very active creature.

Chrysobalanese, one of the suborders of the natural order Rosacese, formerly considered to be a distinct natural order. Warming, however, has classed it as a sub-order of Rosacese, a position it now usually holds. The sub-order contains the typical genera Hirtella and Chrysobalanus. The species are tropical trees and shrubs, often bearing the name of plum. C. Icaco, the cocoa plum, is a native of the W. Indies, where the fruit is considered to be a delicaev.

Chrysoberyl, a crystallised mineral, generally of a green colour, translucent, and having a vitreous lustre and conchoidal fracture. Specific gravity, 3'8; hardness, 8'5. It consists of alumina, 77'0; gueina, 17'5; protoxide of iron, 5'0; other matters, 0'5. A few specimens are met with uncrystallised. It is found mostly in Ceylon and Brazil. When the green is very pale it is often called oriental chrysolite. It crystalises into six-

sided crystals.

Chrysochlora, a genus of Diptera established by Latreille, belongs to the family Stratiomyide. In colour the insects are golden green, or black and yellow, in build they are large and stout, and the countries they

frequent are tropical.

Chrysochloridæ, a family of insectivorous mammals containing a single genus with about half-a-dozen species known as Cape golden moles. The Chrysochloris has mole-like habits, and its eyes are covered with skin, but it has only four digits on its fore-paws, while the mole has five. It has no tail, and the ears lack pinnæ. Ch. Capensis, the Cape chrysochlore, has a velvety fur of metallic colour, burrows underground, and feeds on worms and insects.

Chrysocolla, an ore of copper, being the hydrated silicate of that metal. It is of a bluish colour, and found in large quantities in the Mississippi valley and in smaller quantities in Cornwall and Cumber-

land.

Chrysocoma, a genus of composite plants, is indigenous to S. Africa. C. linosyris is rarely found in limestone cliffs of Britain; the plant is fleshy with yellow flowers.

Chrysodon, the name given by Oken to some annelids which are now included in the genus Amphibrite.

Chrysolite ('golden stone'), a
of a pale greenish colour,
ising in right rectangular
It is a silicate of magnesia

and protoxide of iron, the formula being 2(MgFe)O,SiO. It is mostly fragacee, occurs in mild countries, used in jewellery, and is occasionally its species being herbaceous plants found in rounded masses, but usually as a constituent of basalts and lavas. The common form of the mineral is olivine, which is of an olive golden saxifrages.

Chrysoplenium, a genus of Saxifragacee, occurs in mild countries, with pale green flowers. C. alternity of the mineral solivine, which is of an olive golden saxifrages.

Chrysoplenium, a genus of Saxifragacee, occurs in mild countries, with pale green flowers. C. alternity of the mineral solivine, which is of an olive golden saxifrages. The, green or brownish colour. crystals are positively doubly re-

fractive. that the constituents are, of c. 1355-1415), one of the chief incourse, crystalline and amorphous troducers of Greek literature and silica combined to give differential learning to Western Europe, born at effects, but the fine apple-green Constantinople; he studied under the colour is given by the presence of the colour is given by the presence of the colour control of the colour colours. philosopher Gemistus, and was sent nickel oxide. in 1383 by the Emperor Manuel Palæologus to Italy to beg for help against the Turks. On his return he was invited by Florence to reside in the city and teach Greek. Here he lived for three years, travelling much in Italy, his translation of Plato and Homer becoming famous. He went on an embassy to Germany in 1413 to fix on the place where the approaching general council of the church was to meet, and he represented the Greek Church in the train of John XXIII. at Constance where he died suddenly. His printed works are two only: Erolemala, a Greek grammar, and Enjetland to comparations Veteric and Epistolæ de comparatione Veteris et novæ Romæ.

Chrysomelidæ, a large family of coleopterous insects, consists of a smallish and brilliantly-coloured species. The fat little grubs and the perfect beetle are both vegetarian in diet, and many are destructive to The well-known Colorado Beetle (q.v.) is a species which feeds

on potatoes.

Chrysophane, a variety of seyberite, and very similar to clintonite, of a reddish-brown colour. It occurs in

foliated masses.

Chrysophrys, genus of a sea-breams, contains Sparidæ or acanthopterygious fish which inhabit warm and tropical seas. Ch. aurala, the gilt-head, is an hermaphrodite species which has been found off our but the coast, usually frequents Mediterranean.

Chrysophyllum Cainito, or the Starapple, is a species of Sapotaceæ which grows in the W. Indies and is valued on account of its edible fruit. The plant is a moderately-sized spreading tree, and the fruit abounds in a sweet milky juice which flows copiously

smooth fruit resembling a large apple; the inside is divided into ten cells, each with a black seed, and the pulp is white or purplish. When cut across, the seeds present a stellate figure, whence the name.

Chrysoprase, a mineral variety of chalcedony used as a precious stone, more particularly on the Continent.

Chrysops, a genus of Tabanidæ, contains several species of flies known by the ominous name of cleg or gad-fly, and noted for their large and beautiful green-gold eyes. The insects are small, being about one-third of an inch long, but they are large enough to cause considerable irritation when indulging in their blood-sucking propensities. C. cacutiens and Ch. relictus have an unenviable notoriety.

nave an unenviable notoriety.
Chrysostom (Gk. Χρυσόστομος, the
golden-mouthed), St. John Chrysostom (c. 345-407), one of the great
fathers of the Christian church, also
known as John of Antioch, born at
Antioch. He attended the school of
the sophist Libanius, and showed such remarkable powers of mind that he would have succeeded his teacher as the head of the school had not the influence of his mother and many Christian friends persuaded him to be baptised, about A.D. 370. For ten years he lived in the desert, studying theology, but his austerities led to a severe illness, and he returned to Antioch, where he was ordained. After another ten years strenuous work in Antioch he was made Archbishop of Constantinople, and be-came one of the most famous preachers of the age. His knowledge of human nature was keen and deep, and his eloquence made him as many enemies as adherents. His sermons in St. Sophia were directed not only against the Arians but even more against the licentiousness of the Imperial court and the idleness and vice of the innumerable monks who thronged the city. The Arians at this time had no place of worship and met at night outside public buildings, where they sang hymns expounding their doctrines. To counteract their 'riluence on the orthodox, C. arranged

system of nightly processional ymn singing, the first example of hymns combined with a service. Riots ensued and much bloodshed, the Empress Eudoxia's chief eunuch being slain. In order to condemn C., Theophilus, Bishop of Alexandria, summoned a synod which met at

638 Chufut

Chalcedon through fear of the fury of the people of Constantinople, who were the ardent supporters of their archbishop. He refused to appear, was condemned on the charge of Origenism and contumacy, and was removed to Nicea in Bithynia. The fury of the populace was so aroused that he was hastily brought back to Constanti-nople, but two months later he was once more exiled, this time to Cucu-sus in Cilicia. From here he wrote many of his greatest sermons and letters, and planned missions to the Persians and Goths. His vindictive enemies then secured his removal to the far desert of Pityus, and on his way there he died. Fresh riots way there he died. Fresh riots broke out in Constantinople at the news of his death, and peace was not finally restored until his bones were brought back thirty years afterwards. His festival in the Greek Church is on Nov. 13, in the Latin Church Jan. 27. The prayer of St. C., that stands last but one at the end of Matins, Evensong, and the Litany in the English Book of Common Prayer, is taken from the Liturgy of St. Chrysostom. His works are voluminous, and nearly all have been preserved. See Oxford Library of the Fathers; and Lives, by W. R. W. Stephens, 1871; R. W. Bush,

1885; and A. Peuch (Paris), 1891. Chrysostomus, see DION CHRYSOS-

TOMUS.

Chrysothrix, the genus of squirrel monkeys, belongs to the family Cebidæ (q.v.). It consists of four species, all of which are arboreal, insectivorous, and gregarious; long tail is non-prehensile and the face is small.

Chrzanow, a tn., 25 m. W. by N. of Cracow, in the crownlands of Galicia,

Austria. Pop. 10,170.

Chu, a riv. some 570 m. in length, in Turkestan, Asiatic Russia. Rising in the Tian Shian Mts., in the W.S.W. of Lake Issyk-kul, it is first known as the Koshkar. Passing within 3 m. of Issyk-kul, it swerves into the gorge of Buam, and leaving Tokmak behind flows on towards Lake Saumulkul, disappearing in the desert 125 m.

before reaching it.

Chüanchow-ful (called Chinchew by the British), an ancient port and walled city in the prov. of Fu-kien, China. There being now a great sandbar across the harbour mouth, Chinchew has been outstripped in trade by the port Amoy, whilst it now des-patches its own exports—tea, sugar, china-ware, and tobacco-from Ngan-The most famous bridge in China connects Chinchew with its suburb, Loyang. Marco Polo and other travellers mention Chinchew as carrying on a large traffic with Europe in the middle ages.

Chub, the name of several carp-like fishes, in the large family Cyprinide, is applied in Britain to Leuciscus cephalus. In N. America, however, it is given to the near ally, Leucosomus copporalis, and to fishes of the genus Ceratichthys.

Chubb, Charles (d. 1845), a lock-smith, improved the 'detector 'lock, which his brother had originally patented in 1818. After managing a hardware business with 200 hands in Wolverhampton, he went to London, where he set up a factory for burglar and fire-proof safes of his own patent

in 1835.

Chubb, Thomas (1679-1746), English deist, born at East Harnham, near Salisbury, the son of a maltster. Apprenticed to a tallow chandler, he educated himself on the death of his father in 1688, theology being his favourite subject. In 1715 he wrote The Supremacy of the Father, followed by several other theological works. C. is interesting as representing a popular form of deism, and as showing the hold that rationalism had takens the supremental Misuralize. taken on the popular mind. His works also include The True Gospel of Jesus Christ, The Discourse of Miracles,

Discourse concerning Reason.

Chubut, a territory in Southern Argentina, bounded on the N. by Rio Negro, on the E. by the Atlantic, on the S. by Santa Cruz, and on the W. by Chile. Connected by rail with Puerto Madryn on the Bahia Nueva, it is nevertheless the difficulties of transportation that hinder further development. Rising in the Andes, the river C. flows straight across to the The Senguerr discharges Atlantic. into Lake Colhuapi, other lakes of size being La Plata and Fontana in the Andean highlands, and Musters in the interior. Save for the fertile. forested valleys on the Andean border, the whole country is an arid pebblestrewn waste, clothed with stunted vegetation. Nevertheless, there is a Welsh colony near the C. mouth, with Rawson as its capital and Madryn (44 m. distant) as its chief port. Total area, 93,427 sq. m. Pop. 9060.

Chüching-fu, or Kiutsing-fu, a well-fortified city 78½ m. E.N.E. of Yun-nan-fu, in the prov. of Yunnan, S.

China.

Chudleigh, a tn. in Devonshire, England, 8 m. S.W. of Exeter. In 1807 it was almost destroyed by fire, but was rebuilt. It is noted for eider. Pop. (1911) 2005.

Chudleigh, or Chidley, a promon-tory on the N. coast, at the entrance of Hudson Straits in Labrador, Canada. Chufut-Kaleh, a deserted fn., 2½ m. E. of Bakhchi-Sarai in the dist. of Simferopol and the government of Taurida, Russia. Perched on precipitous and well-nigh inaccessible cliffs, 1835 ft. above sea-level, it was in the 15th century the refuge of the Karaite Jews from the Crimea. Be-tween C. and Bakhchi-Sarai is the Uspenskiy monastery, clinging like a limpet to the cliff face:

Chuguyev, a tn. on the r. b. of the Northern Donets, 241 m. E.S.E. of Kharkov, in the government of Khar-

kov, Russia. Pop. (1897) 11,877.
Chu-hsiung-fu, a tn. 77 m. W. of may Yunnan-fu, in Yunnan, China.
Chukchi Men, or the Tuski, 'Con-Ru

their language resembled Koryak, not Eskimo, and sums up his discussion of their racial characteristics by saying that they bear 'an unmis-takable stamp of the Mongols of Asia and the Eskimo and Indians of America. The C., who are divided into the poor 'Fishing C.,' with fixed homes, and the comparatively wellto-do and nomadic 'Reindeer C., who breed great herds of reindeer and live on their milk and flesh, are tall and lean, with thick lips, coarse lank black hair, and puffy cheeks which often completely wrap in the nose.

for future me, they say, is reserved for men slain by violence. Osten-sibly Christians, they practise poly-gamy, and are victims of their own superstitious faith in mountain and

other spirits.

2 m. from m. S.E. of England.

itural apish India,

cdition to Thassa in 1904 advanced. Flanked by Bhutan and Sikkim, it lies on the southern slopes of the Himalayas at an elevation of 9500 ft.

Chumbul, or Chambal, an unnavigable river (514 m. long) of Central India, rising in Malwa, near Mau, and joining the Jumna, W. of Cawnpur.

Chunam, the Indian name for very quicklime, made from pure limestone or from calcined shells. It is used as an ingredient for plaster, when it is well mixed into a paste, together with fine river-sand and jargery (coarse sugar). It is also wrapped up with small pieces of boiled betel nut in the leaf of the betel vine. This mixture is commonly chewed among Orientals as a masticatory.

Chunar, see CHANAR.

Chunchos, The, a savage people who dwell in communal houses and live by hunting in the forests E. of Cuzco, Central Peru. They are an independent tribe of S. American Indians, not unlike the Antis. the term C. has also been referred to one of the three aboriginal peoples of Peru.

Chunchuses, a warlike tribe of ma. in parts In the

Japanese ected of bribing these freewreck the railroads. They e suzerainty of China,

ing-fu, a river port at the of the Yangtse and the 32 m. above Hankow, in

the wealthy province of Szechuen. China. Built on a rocky cape, it is surrounded by a stone wall, 5 m. in circumference, eight of whose gates give on to the water. Opened to foreign trade since 1891, it now imports on large junks from Ichang cotton and metal manufactures, sending down in return opium, wax, silk, rhubarb, and hides, which are afterwards distributed through the Hankow, Shanghai, and other districts. Most of the trade for the whole S.W. of China passes between Chungking and Kiangpeiting, on the opposite side of the Kialing. Rapids and sudden floods impede steamer traffic Ichang and Chungking. The total value of imports and exports in 1904 was £4,214,568. pop. is about 300,000.

Chunian, a tn. in the Punjab dist. of British India, 45 m. S.S.W. of Lahore. Pop. 10,300.

Chupanga, or Shupanga, a vil. of Portuguese E. Africa, on the r. b. of Lower Zambesi R. The scenery is beautiful, but the district malarial. The wife of Livingstone, the explorer and missionary, was buried here (1862).

Chupra, see Chapra.

Chuquisaca, or Charcao, a dept. in Bolivia lying between the Andes and the Paraguay R., forming the S.E. corner. The capital town is Sucre. It covers an area of 26,400 sq. m. Pop. 240,000.

Chuquisaca, or Sucre, the cap. of Bolivia, S. America. Situated 9343 ft. above sea-level, it enjoys a particularly mild climate, and has a fine cathedral and a university.

32,416.

Chuquito, Chucuito, or Chucuyto, a prov. of Peru, also cap. of this prov., 12 m. from Punc, on W. of Lake Titicaca. There are silver and gold mines, woollen manufactures, dyeing of vicuña wool. Prehistoric remains have been found. Pop. 5000.

Chur, see Coire.

not only with external matters such as its extension and its political and social relations, but also with its Gregory the Great (A.D. 590), but carried by some to Charlemagne's foundation of the new empire (A.D. 800); Mediæval, which closes with the Reformation; and Modern, from the Reformation to the present day. It is impossible here to give even a little of these three winds had sketch of these three periods, but reference will be made to many works covering the whole or part of the field. Here we shall deal only with the development in the treatment of C. H. Our earliest documents consist. of the books of the N.T., and various scraps of information contained in the letters and writings of the early fathers. In the 2nd century, Hegesippus, a Jewish Christian, compiled some memoirs of the early days of the church, but only a few fragments remain. Eusebius of Cæsarea, who wrote in the early part of the 4th cen-tury is known as the father of church wrote in the early part of the 4th century is known as the father of church, history.' He gave an account of the chirch of the first four centuries, and his work was continued in the next century by Socrates, Sozomen, and Theodoret. All these were produced in the E., whence no important church historian but Nicephorus Calion the subject. See Church.

listius in the 14th century has arisen Chura, a feudatory state of Kathia- since. Rufinus translated Eusebius' war, Gujarat, India: also capital of History into Latin, and fresh consame, 56 m. from Cambay. Pop. 5500. Church History, the history of the Lector, Evagrius, Theophanes, etc. Christian church and religion, dealing A translation of the works of Socrates. Sozomen, and Theodoret was made by Cassiodorus in the 6th, and this compound work known as the Historia! inner development in accounting the common of the common of the continuous common of the common of th Ecclesiastica Tripartita, formed the mediaval text-book on the subject Among other early names may be mentioned Sulpicius Severus, Jerome, those of Haymo of Halberstadt, Anastasius, Ordericus Vitalis, and Otto of Freising. The greatest, however, is that of the Dominican, Antoninus of Florence (archbishop, 1446-59), whose work is often modern in its aspect. Since the reformation there has been a steady stream of histories, at first largely polemical. The Magde-burg Centuries was a Lutheran attempt to show the primitive nature of Protestantism, and called forth the Annales Ecclesiastici of the Roman Catholic Baronius, who was later fol-lowed by Natalis Alexander, Bossuet, Tillemont, etc. The scientific and critical era of church histories began with the German Mosheim, who was

END OF VOL. III